SOAR WITH FALCON

Falcon® 4400 Lite

Windows® Based Mobile Computer

26-Key model with handle

48-Key model

52-Key model in Dock

Product Reference Guide

psc

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Preface: About this Guide

How to Use this Manual

This Product Reference Guide contains comprehensive basic user instructions for the Falcon 4400 Lite mobile computer software, batteries, dock, serial cable, data transfer, as well as advanced user information such as bar code configuration and parameters. This section of the manual provides an overview of the manual's contents and organization.

Document Overview

This document contains the following material:

- This Preface provides an overview of the contents for each chapter, and describes document style conventions.
- Chapter 1, Batteries and Power, discusses checking battery power, power conservation, battery installation, battery charging with a dock or battery charger, battery storage, battery disposal, and resetting the mobile computer.
- Chapter 2, Configuring the Falcon, uses the control panels to adjust touchscreen calibration, date and time, display backlight/contrast, volume/sounds, scanner, power, and memory.
- Chapter 3, Software Applications, covers flash memory, installing, selecting, using, and removing applications, entering data, and using the soft input panel with Inbox, Internet Explorer, and Word Pad.
- Chapter 4, Networks, Communications, and Connections, describes installing, setting up, and using ActiveSync and Networking.
- Appendix A, Accessories, describes the Accessories, such as docks, battery chargers, holsters, and soft cases available for the Falcon.

- Appendix B, Falcon® Desktop Utility (FDU) allows PSC Windows administrators to configure Windows®CE Falcons to control individual user access.
- Appendix C, Configuring the Web Server, describes configuring the Falcon to work with a Web Server.
- Appendix D, SNMP Interface, describes SNMP (Simple Network Management Protocol) concepts, MIB (Management Information Base) files, and provides additional resources.
- Appendix E, Cable and Connector Configurations contains information about standard interface cables for use in interconnecting the Dock to power and/or peripheral devices.
- Appendix F, Programming Parameters, provides the programmable settings for the Falcon.
- Appendix G, Programming Bar Codes, provides bar codes for common setup parameters for programming the Falcon.
- Appendix H, Maintenance, describes Falcon maintenance, provides a list of error messages, and gives information on contacting PSC for technical support.
- Appendix I, Glossary, is a glossary of terms used in this manual that you may not be familiar with that are specific to Windows®CE and the mobile computer.

Registering Your PSC Product

PSC values your feedback. Please take a few moments and complete the Product Registration form located on our website (www.psc.com). Registering your products ensures that you will be informed of the latest product news, technical specifications, software updates and other future developments from PSC.

Document Conventions

Formatting conventions are used throughout this guide to provide a consistent method for representing screen shots, command entries, and keyboard characters. This guide also provides special conventions for notes and cautions, information of high interest.

NOTES contain information necessary for properly diagnosing, repairing and operating the terminal.

CAUTION

The CAUTION symbol advises you of actions that could damage equipment or property.

WARNING

A WARNING symbol calls attention to actions that could result in personal injury.

Keystrokes. Filenames, paths, field selections from a pull-down list, and data or keystrokes entered by the user are shown in this `monospaced` typeface.

Windows Controls. Windows controls including command bar sequences, prompts, dialog boxes, fields, pull-down lists, check boxes and radio buttons are printed in this **bold** typeface.

Portable Keys

Keys on the Falcon are bracketed by "greater than" and "less than" symbols (**< >**) to distinguish them from keys on the PC.

<F1> — <F19> Keys. The Function keys, such as **<F1>**, refers only to keys on the Falcon.

<ENTER> Key. To differentiate the **<ENTER>** key on the portable from the **Enter** key on the PC's keyboard, portable keys are formatted with "greater than" and "less than" symbols: **<ENTER>**.

Stylus Actions

Stylus actions apply to the Falcon only.

Tap or Select. Tap the display screen once with the stylus to activate a specific button or select an item from a pull-down list.

Double-Tap. Tap the stylus twice rapidly in the same location to open an application.

Tap and Hold. Tap and hold the stylus to view the context menu.

Refer to the *Falcon 4400 Lite Quick Reference Guide (QRG)* for more information on using a stylus with the Falcon.

Mouse Actions

Mouse actions apply to the PC software sections of this document.

Click or Select. Press and immediately release the left mouse button without moving the mouse. Clicking is used to select specific buttons on various forms and tables.

Double-Click. Click the left mouse button twice in rapid succession. Used to initiate an application.

Right Click. Press and hold the right mouse button without moving the mouse.

Select. Click and release the left mouse button to choose an item or items from a pull-down list.

Chapter 1
Batteries and Power

Overview

This section contains the following topics:

- "Suspend Mode" starting on page 1-1
- "Battery Warnings and Cautions" on page 1-2
- "Battery Disposal" starting on page 1-4.

Suspend Mode

The Falcon will go into a suspend or sleep mode when it is idle for a period of time. This duration can be customized using the **Power** control panel (refer to "Power Off Tab" on page 2-22. Suspend mode works and looks just like you have turned the unit off. Press **<Power>** to suspend (put to sleep) the Falcon. Press **<Power>** again for the Falcon to resume its previous state.

Use the **Battery Power** control panel to set the idle duration and the initiation of suspend mode. These features save battery power when the Falcon is not in use. Refer to "Power Off Tab" on page 2-22 for more information.

Suspending

The following conditions will put the unit into suspend (sleep) mode:

1. When the unit is on, press **<Power>** for 0.5 second to initiate suspend mode.
2. When the sleep timer expires, indicating that there has been no use for a specified period of time.
3. A discharged battery pack.

Resuming

Use one of the following methods to resume (wake up the Falcon):

- Press **<Power>** to resume (wake up).
- Put the Falcon into a dock.
- Press the **Scan Trigger** to wake up the unit (handled version only).

When a battery pack is fully discharged while the unit is in suspend mode, the Falcon remains in the suspended mode until the battery pack is charged or external power is supplied via the dock or a power cable.

Battery Warnings and Cautions

WARNING

Do not discharge the battery using any device except for the Falcon. When the battery is used in devices other than the Falcon, it may damage the battery or reduce its life expectancy. If the device causes an abnormal current to flow, it may cause the battery to become hot, explode or ignite and cause serious injury.

Lithium-ion battery packs may get hot, explode or ignite and cause serious injury if exposed to abusive conditions. Be sure to follow the safety warnings listed below:

- **Do not place the battery pack in fire or heat.**
- **Do not install the battery pack backwards so the polarity is reversed.**
- **Do not connect the positive terminal and negative terminal of the battery pack to each other with any metal object (such as wire).**
- **Do not carry or store the battery pack together with metal objects.**
- **Do not pierce the battery pack with nails, strike it with a hammer, step on it or otherwise subject it to strong impacts or shocks.**
- **Do not solder directly onto the battery pack.**
- **Do not expose the battery pack to liquids, or allow the battery to get wet.**

In the event the battery pack leaks and the fluid gets into your eye, do not rub the eye. Rinse well with water and immediately seek medical care. If left untreated, the battery fluid could cause damage to the eye.

CAUTION

Always charge the battery at 32°–113°F (0°–45°C) temperature range.

If you remove the battery pack or it becomes completely discharged, there is a 30 minute window in which to insert a charged battery pack before the backup battery fails. If your backup battery completely discharges, the contents of the RAM memory will be lost. If your back-up battery is less than fully charged, there is proportionally smaller window of time available.

Use only the authorized power supplies, battery pack, chargers, and docks supplied by your PSC reseller. The use of any other power supplies can damage the Falcon and void your warranty. Refer to Appendix A for the correct Power Supplies and Accessories.

Do not disassemble or modify the battery. The battery contains safety and protection devices, which, if damaged, may cause the battery to generate heat, explode or ignite.

Do not place the battery in or near fire, on stoves or other high temperature locations. Do not place the battery in direct sunlight, or use or store the battery inside unventilated areas such as cars in hot weather. Doing so may cause the battery to generate heat, explode or ignite. Using the battery in this manner may also result in a loss of performance and a shortened life expectancy.

Do not place the battery in microwave ovens, high-pressure containers or on induction cookware.

Immediately discontinue use of the battery if, while using, charging or storing the battery, the battery emits an unusual smell, feels hot, changes color or shape, or appears abnormal in any other way.

PSC recommends annual replacement of rechargeable battery packs to ensure maximum performance.

Battery Disposal

If you must dispose of a battery pack, please follow the CAUTIONS below:

CAUTION

Use only a battery pack supplied by a PSC reseller for this device.The use of other battery supplies can damage the Falcon and void your warranty. Contact your reseller to for the correct power supplies; view your options under "Battery Pack" on page A-2 or the PSC price book at www.psc.com.

CAUTION

When the battery pack is worn out, insulate the battery pack terminals with adhesive tape or similar materials before disposal.

Recycle Lithium-Ion Batteries.

Do not throw Lithium-Ion Batteries in the trash

Please reference your local regulations for any further guidelines about battery disposal.

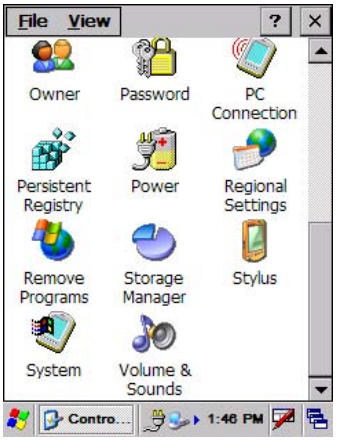
Chapter 2
Configuring the Falcon

Overview

This section contains the following topics on configuring your Falcon. Most control panels are accessed by selecting/tapping Start > Settings > Control Panel.

- "Aironet Client Utility" on page 2-2 (only on units with Cisco radio)
- "Backlight" on page 2-2
- "Certificates" on page 2-3
- "Date and Time" on page 2-4
- "Decoding" on page 2-5
- "Display Configuration" on page 2-11
- "Falcon Config" on page 2-12
- "Input Panel Properties" on page 2-12
- "Internet Options" on page 2-13
- "Keyboard Configuration" on page 2-16
- "Network and Dialup" on page 2-19
- "Owner" on page 2-20
- "Password" on page 2-20
- "PC Connection" on page 2-21
- "Persistent Registry" on page 2-21
- "Power Configuration" on page 2-22
- "Regional Settings" on page 2-22
- "Remove Programs" on page 2-24
- "Storage Properties" on page 2-24

Control Panels



- "Stylus Calibration" on page 2-24
- "System Properties" on page 2-26
- "Volume and Sounds" on page 2-29

Aironet Client Utility

Aironet Client Utility works only for units with a Cisco network card. See "Network and Dialup Connections" on page 4-10 for further information.

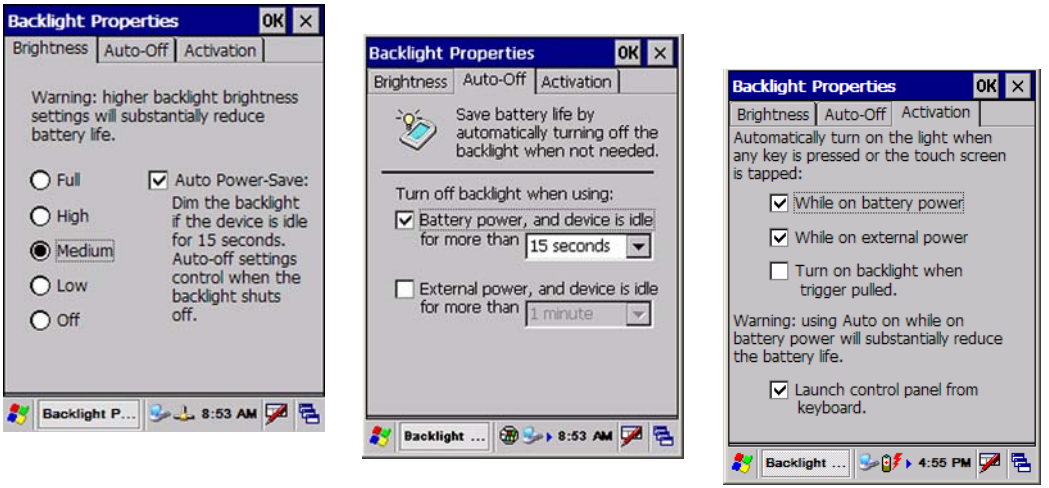
Backlight

Increasing backlight brightness can cause the battery pack to discharge at a faster rate. The battery discharge rate decreases with a decrease in backlight usage.

To change the **Backlight** settings, complete the following steps:

1. Select **Start > Settings > Control Panel > Backlight** to open the **Backlight** control panel. You can also open the **Backlight** control panel by typing one of the following key sequences:
   - On the 26-key model press: **<Fn>+<Backlight>** ( ).
   - On the 48-key model press: **<Fn>+<Backlight>** ( ).
   - On the 52-key model press: **<Fn>+<.>**.
2. On the **Brightness** tab (refer to Figure 2-1), select one of the five (5) radio buttons to adjust the brightness to the desired setting by tapping it with the stylus. You can also use the **<UP>** and **<DOWN>** arrow keys to adjust this setting.
3. Auto Power-Save dims (rather than turning off) the backlight after 15 seconds of inactivity. This features does not change the behavior of the Auto-Off Settings. (Refer to "Power Configuration" on page 2-22).

Figure 2-1. Backlight Control Panel & Brightness



4. On the **Auto-Off** tab, enable the desired option checkbox and select the desired options from the pull-down lists (refer to Figure 2-1).
5. On the **Activation** tab, just tap the checkbox(es) to enable or disable them (refer to Figure 2-1):
   - Set the backlight to turn on automatically when any key is pressed or the touchscreen is tapped, either while on battery or external power.
   - Turn on the backlight when the trigger is pulled.
   - Deselect Launch Control Panel from the Keyboard to turn off the ability to open the **Backlight** control panel with a key sequence.

Using Auto-on while running from battery power will cause the battery pack to discharge at a faster rate. The battery discharge rate decreases with a decrease in backlight usage.

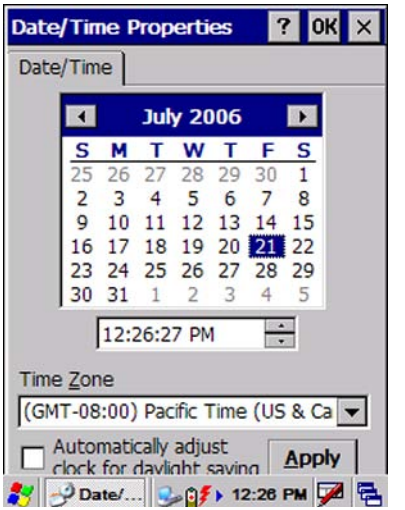
6. To exit and save your modifications, tap **OK** on the command bar, or press **<Enter>** on the keypad.

Certificates

Certificates are used by some applications for establishing trust and to secure communications. See the Microsoft Windows CE help on your Falcon unit for further information about Certificates.

Date and Time

In this control panel, you can change the year, month, date, time, time zone, or select automatic adjust for Daylight Savings Time. To set or change the date and time:



1. Select **Start > Settings > Control Panel > Date/Time**.
2. Select the month to open a pull-down list of months or tap the arrow buttons on either side of the month to increase or decrease the month.
3. To change the year, select the year to open a numeric dial. Select the up arrow to increase the value; select the down arrow to decrease the value. Or you can type a new year value in the field.
4. To change the time, select the hour, minute, seconds, or AM/PM and select the up arrow to increase the value; select/tap the down arrow to decrease the value. Or you can type a new time value in the field.
5. Select your correct time zone from the pull-down list.
6. To automatically adjust the clock for Daylight Savings Time, enable the checkbox at the bottom of the screen.
7. Select **Apply** to save your changes and make additional modifications.
   - Select **OK** to save your changes and exit **Date/Time Properties**.
   - Select/tap the close button to exit without saving your changes.

Decoding

You can configure the Falcon's decoding options by tapping on **Start > Settings > Control Panel > Decoding**. Decoder configuration can also be accomplished for large numbers of terminals using **FMU** (Falcon Management Utility).

There are two sections in the **Decoding** control panel, each containing additional pages. There are several General Configuration pages and multiple Bar Code symbology pages.

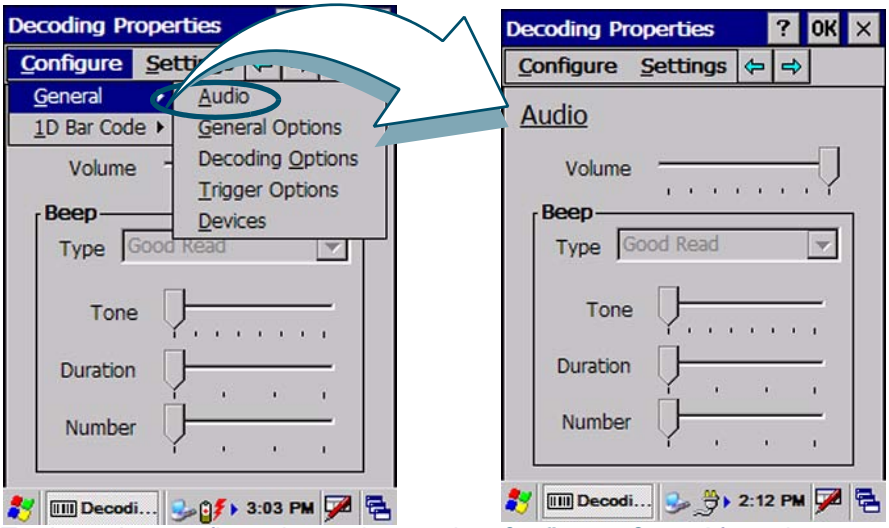
Other decoding parameters are described in Programming Parameters, starting on page F-1; bar code settings are provided in Programming Bar Codes, starting on page G-1.

Configuration Control Panels

Select the desired configuration from the following options shown in Figure 2-2, and the other Decoding Properties figures on the following pages.

Use the pull-down menus or tap the left and right arrow keys to navigate the different pages of the **Configure** utility.

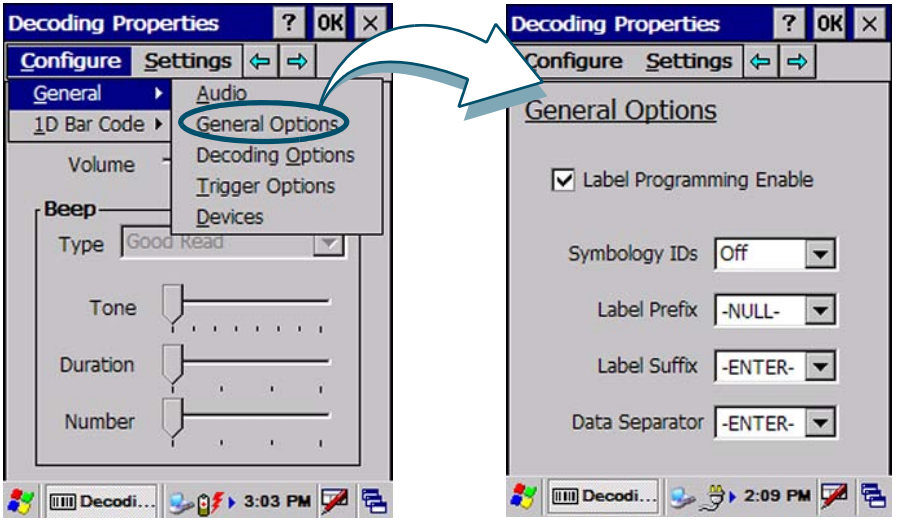
Figure 2-2. Decoding Properties: Audio



To view other configuration options, select **Configure > General** from the menu

- **Audio**: Sets volume, tone, duration, and number of various types of beeps.

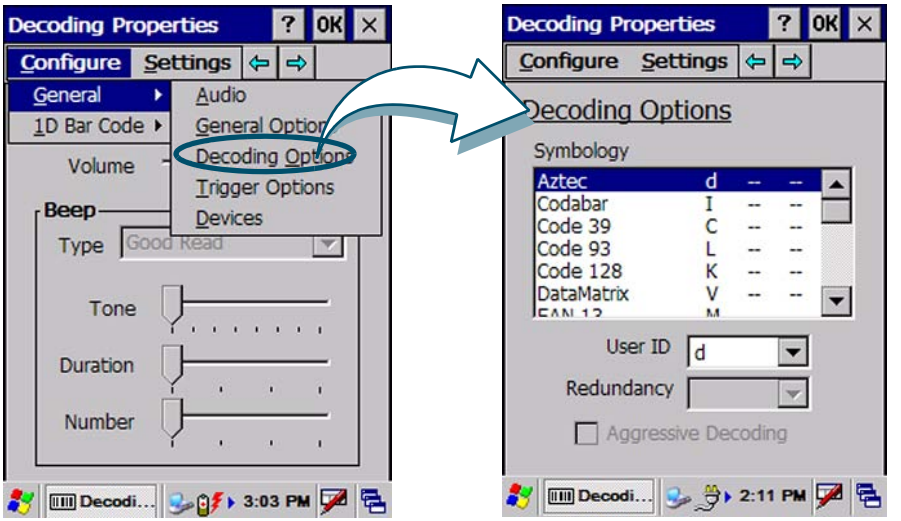
Figure 2-3. Decoding Properties: General Options



To view other configuration options, select **Configure > General** from the menu

- **General Options**: Select from Label Programming Enable, Symbology IDs, Label Prefix, Label Suffix, and Data Separator options.

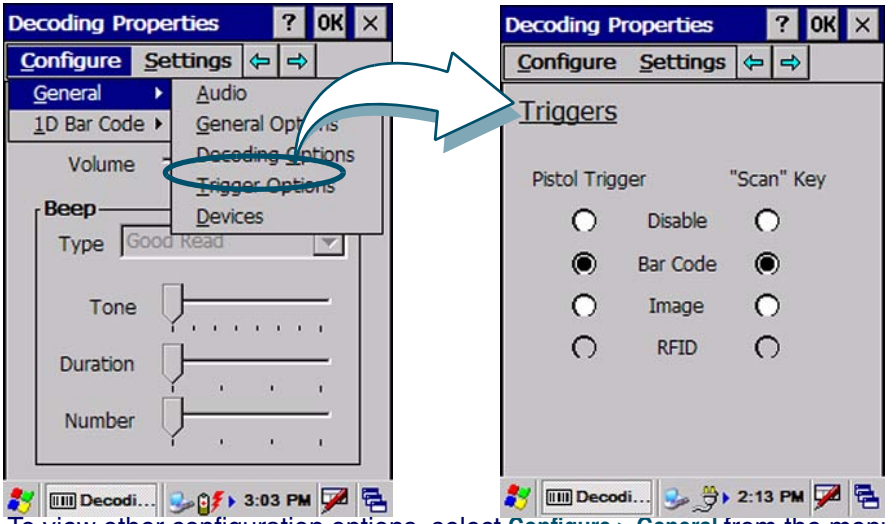
Figure 2-4. Decoding Properties: Decoding Options



To view other configuration options, select **Configure > General** from the menu

- **Decoding Options:** Set the **User ID** character associated with a symbology, the **Redundancy** and select **Aggressive Decoding** when available.

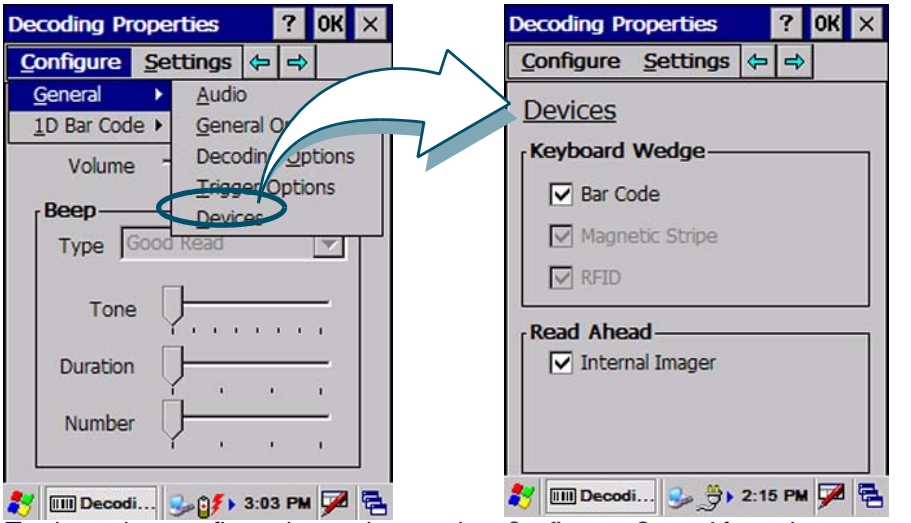
Figure 2-5. Decoding Properties: Trigger Options



To view other configuration options, select **Configure > General** from the menu

- **Trigger Options:** Select from Pistol Trigger and Scan Key enable for Bar code, Image, and RFID (available only on selected models). Select the desired radio buttons to define the button functions. Available items may vary depending on the model.

Figure 2-6. Decoding Properties: Devices



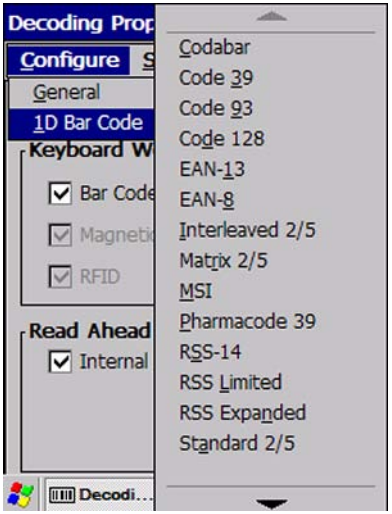
To view other configuration options, select **Configure > General** from the menu

- **Devices**: Enable the keyboard wedge for bar code scanner, Magnetic Stripe Reader, RFID, and enable Read-Ahead for attached devices.

Bar Code Symbology Pages

Use the pull-down menu from **Configure > 1D Bar Code** or tap the left and right arrow keys to navigate the different pages of the bar code symbology pages. Each bar code symbology opens to its own page, as shown in Figure 2-8 on page 2-10.

Figure 2-7. Available 1D Bar Code Symbologies



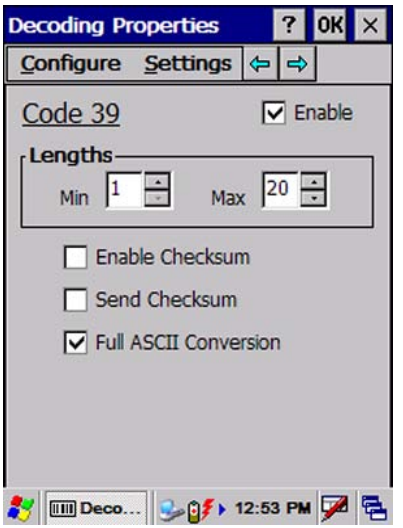
Codabar	Pharmacode 39
Code 39	RSS-14
Code 93	RSS-Limited
Code 128	RSS-Expanded
EAN-13	Standard 2/5
EAN-8	Trioptic
Interleaved 2/5	UPC-A
Matrix 2/5	UPC-E
MSI	UPC/EAN Extensions

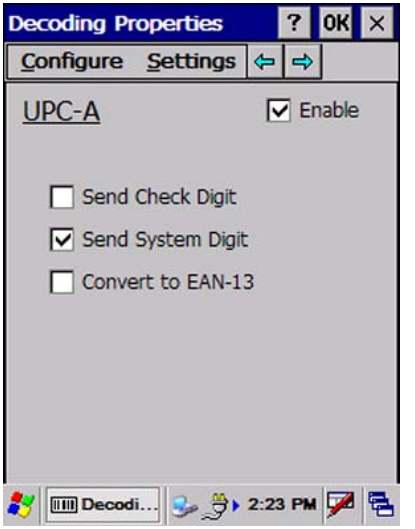
See Appendix G for details on parameters available for each symbology.

Refer to the sample symbology control panels in Figure 2-8 for examples of the types of fields and options you can modify.

Decoding parameters are described in Programming Parameters, starting on page F-1; bar code settings are provided in Programming Bar Codes, starting on page G-1.

Figure 2-8. Common Symbologies: Code 39 and UPC-A





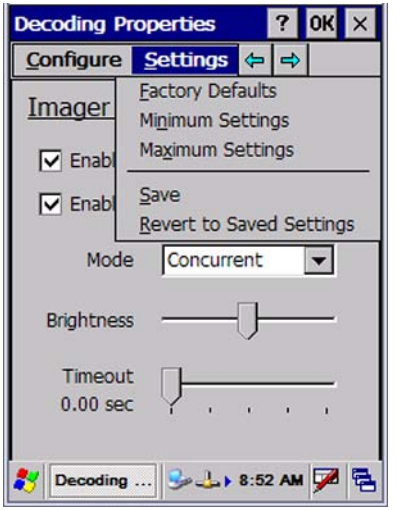
- **Code 39**: Select from enable, min/max lengths, enable checksum, send checksum, and Full ASCII conversion.
- **UPC-A**: Select from Enable, Send Check Digit, and Send System Digit.

Settings

Select from the **Settings** menu to restore previous configurations and/or other available default settings. Choose from:

- Factory Defaults
- Minimum Settings
- Maximum Settings
- Save (New Settings)
- Reverts to Saved Settings

The settings are saved when you select/tap **OK**.



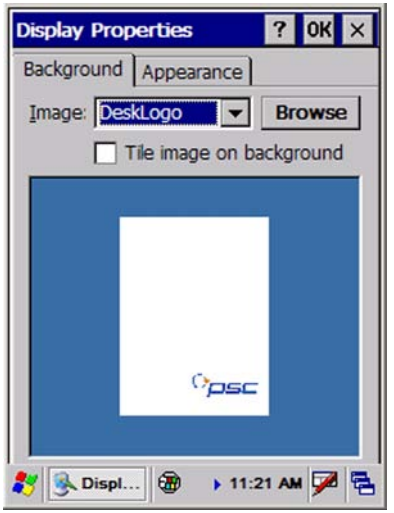
Display Configuration

To change the default Background or Appearance (Windows Color Scheme), select **Start > Settings > Control Panel > Display**.

Background

To change the **Background** image:

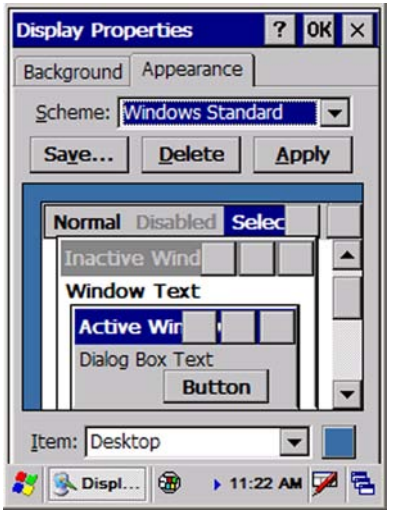
1. Select **Start > Settings > Control Panel > Display**.
2. Place a new image in the **Windows** directory. This file must be exactly 240 pixels wide by 320 pixels high.
3. The current file is located in the Windows directory with the PSC logo file named **PSC.bmp**.
4. Select the new file name by using **Browse**.



Appearance

To change the default Windows color scheme:

1. Tap the **Appearance** tab.
2. Tap the **Scheme** pull-down list and select a new Windows color scheme if desired.
3. Tap **OK** on the control bar, or press **<Enter>** on the keypad.



Falcon Config

Tap **Start > Settings > Control Panel > Falcon Config** to access configuration utilities such as the Falcon Management Utility (FMU) and Falcon Desktop Utility (FDU) settings. See Falcon® Desktop Utility, starting on page B-1, for complete information on FDU.

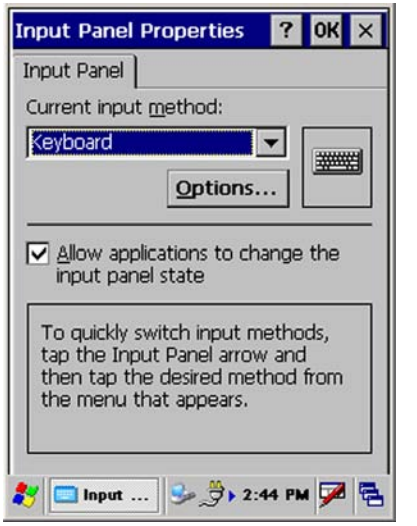
Falcon Management Utility (FMU)

The Falcon Management Utility (FMU) is the easiest method to use to configure multiple Falcons, especially if you have an enterprise-wide deployment. A copy of FMU is shipped with all Falcon Windows CE units. For complete information on FMU, refer to the *FMU User's Guide* on the product CD included with your Falcon.

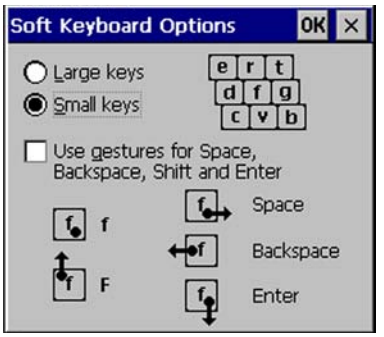
Input Panel Properties

To change the **Soft Input Panel** settings:

1. Select **Start > Settings > Control Panel > Input Panel**.
2. Change the desired settings.
3. To change the **Soft Keyboard Options**, tap **Options**.
4. Change the soft keyboard options as desired, selecting from:
   - Large or small keys.
   - Using gestures for space, backspace, shift, and enter.


Input Panel Properties
?
OK
Input Panel
Current input method:
Keyboard
Options...
Allow applications to change the input panel state
To quickly switch input methods, tap the Input Panel arrow and then tap the desired method from the menu that appears.
Input ...
2:44 PM

5. To exit the **Soft Keyboard Options**, tap **OK** on the control bar, or press **<Enter>** on the keypad.
6. To exit **Input Panel** settings, tap **OK** on the control bar, or press **<Enter>** on the keypad.



Internet Options

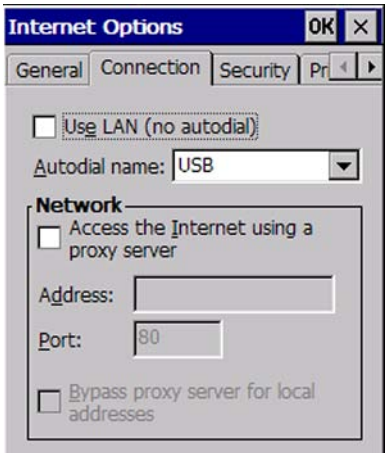
To change the **Internet** default settings:

1. Select **Start > Settings > Control Panel > Internet Settings**.
2. On the **General** tab (refer to Figure 2-9A), type in the URL of the desired start page and the desired search engine. You can also select a User Agent, change the **Cache Size**, clear the Cache, and clear the History.
3. On the **Connection** tab (refer to Figure 2-9B) modify the network access settings as desired.

Figure 2-9. Internet Settings

A

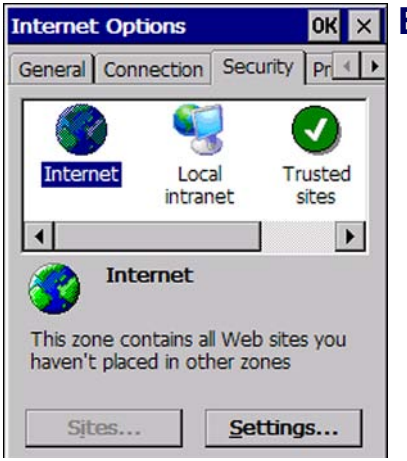
B



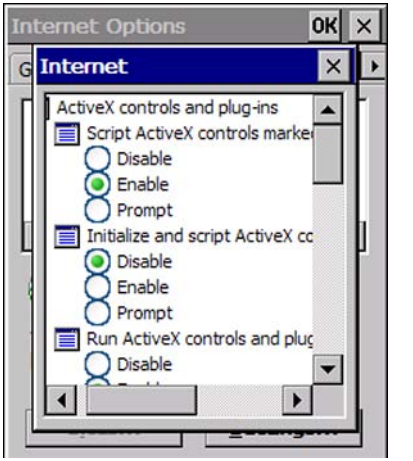
4. On the **Security** tab (refer to Figure 2-10A) add sites or modify the security settings for Internet, Local intranet, Trusted Sites, and Restricted Sites.

Figure 2-10. Internet Settings

A



B



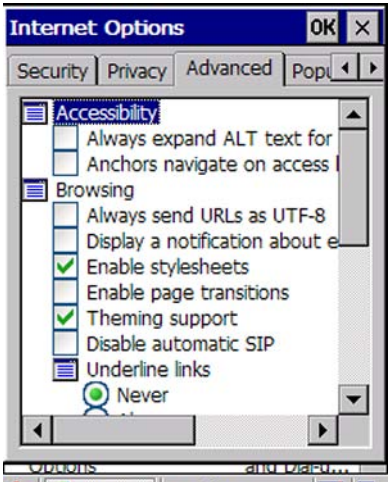
5. The **Privacy** tab (refer to Figure 2-11) allows you to modify the settings by tapping the radio buttons. You can Accept, Block or receive a Prompt for First-party and Third-party Cookies. You can also Enable/disable session cookies by selecting the check box.

Figure 2-11. Internet Privacy Settings

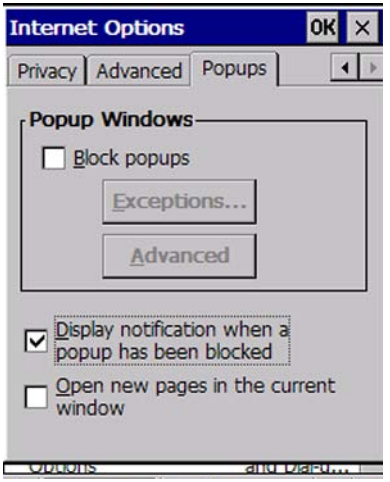
6. On the **Advanced** tab (refer to Figure 2-12A) modify the advanced settings for Accessibility, Browsing, Multimedia, and Security by tapping the check boxes.

Figure 2-12. Advanced Internet and Popup Settings

A



B



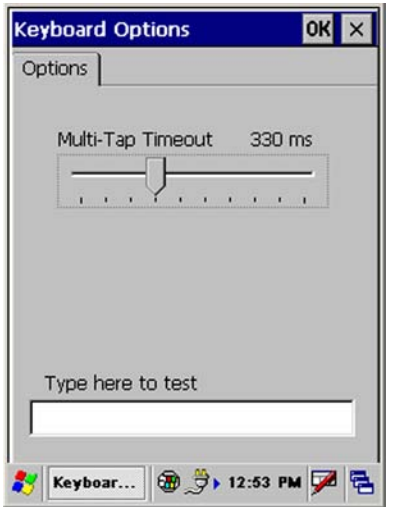
7. The **Popups** tab provides options for blocking popups, to display notification when popups have been blocked, and to open new pages in the current window.
8. To exit **Internet Settings**, tap **OK** on the control bar or press **<Enter>** on the keypad.

Keyboard Configuration

The keyboard control panel will appear different, depending upon which keypad your Falcon has.

26-Key Keypad

1. Select **Start > Settings > Control Panel > Keyboard Options** to open the Keyboard control panel.
2. Adjust the slider for **Multi-Tap Time-out** to match your personal preferences.
3. Use the box provided to test the time-out delay.
4. Tap **OK** to exit the **Keyboard Options** control panel.

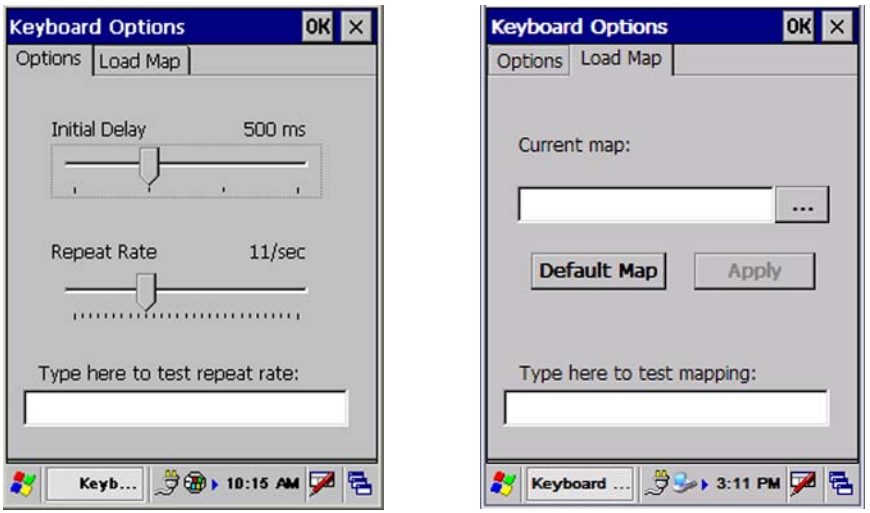


48-Key Keypad

The control panel for the 48-key keypad has some additional options and an additional tab for key mapping.

1. Select **Start > Settings > Control Panel > Keyboard** to open the Keyboard control panel.
2. On the **Options** tab, adjust the slider for **Initial Delay.** This configures the time to hold down a key before it repeats.

Figure 2-13. 48-Key Keypad Control Panels



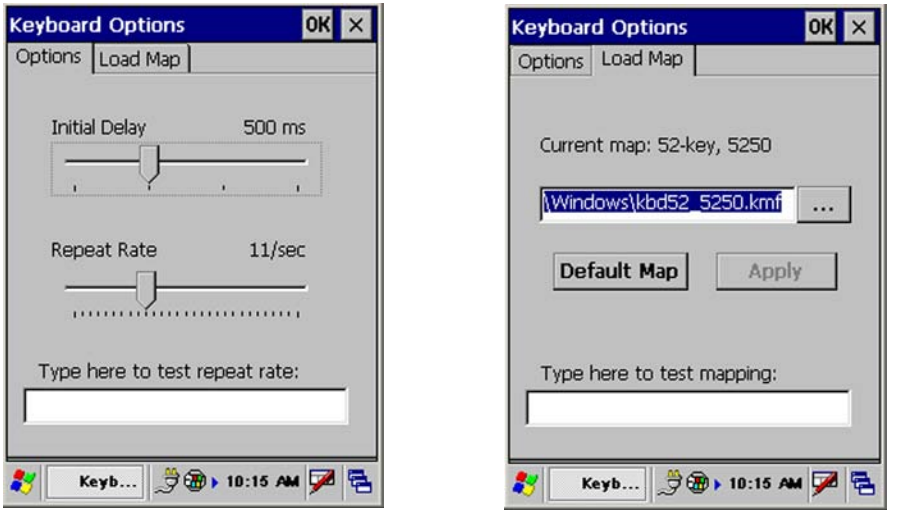
3. You can also adjust the slider for **Repeat Rate**. This configures how fast the keys repeat.
4. Use the box provided to test the selected repeat rate setting.
5. On the **Load Map** tab, you can select a keyboard key-map by browsing, or change to the **Default Map**.
6. Use the box provided to test the test the current keyboard mapping.
7. Tap **OK** to save your changes and exit the **Keyboard Options** control panel.

52-Key Keypad

The control panel for the 52-key keypad has some additional options and an additional tab for key mapping.

1. Select **Start > Settings > Control Panel > Keyboard** to open the Keyboard control panel.
2. On the **Options** tab, adjust the slider for **Initial Delay.** This configures the time to hold down a key before it repeats.

Figure 2-14. 52-Key Keypad Control Panels



3. You can also adjust the slider for **Repeat Rate**. This configures how fast the keys repeat.
4. Use the box provided to test the selected repeat rate setting.
5. On the **Load Map** tab, you can select a keyboard key-map by browsing, or change to the **Default Map**.
6. Use the box provided to test the test the current keyboard mapping.
7. Tap **OK** to save your changes and exit the **Keyboard Options** control panel.

Network and Dialup

To change the Network and Dialup connection settings, complete these steps:

1. Select **Start > Settings > Network and Dialup Connections**.

Figure 2-15. Changing the Network & Dialup Connection Settings.

2. Double-tap the connection to view or change the settings. The **CISCO1** item shown as an example can vary, depending on the radio installed and the number of connections.
3. Complete the two tabs as shown in Figure 2-15:
   - **IP Address**: Select **DHCP** or set s tatic IP settings.
   - **Name Servers**: If using static IP, set **DNS** and **WINS** servers.

Owner

To change the **Owner** default settings:

1. Select **Start > Settings > Control Panel > Owner Properties**. The **Input Panel** opens to facilitate entering data.
2. Enter data using the input panel or the keypad on the PDA.
3. To exit the **Owner Properties** control panel, tap **OK** on the control bar, or press **<Enter>** on the keypad.

For more information on using the **Network ID** tab, refer to "Setting up the Network ID" on page 4-8.

Password

To change the **Password** default settings:

1. Select **Start > Settings > Control Panel > Password Properties**.
2. Enter the desired password twice as indicated in the two fields.
3. Select to enable password protection at power-on and/or enabling password protection for the screen-saver.
4. To exit the **Password** control panel, tap **OK** on the control bar, or press **<Enter>** on the keypad.

PC Connection

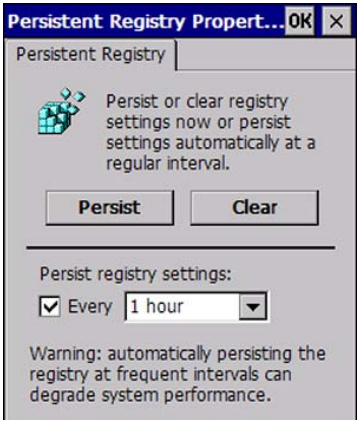
The **PC Connection** control panel determines how ActiveSync works with the PDA. To modify the default settings:

1. Select **Start > Settings > Control Panel > PC Connection**.
2. Select the first checkbox to enable direct connections to the desktop computer.
3. Tap **Change Connection** to modify the connection method from USB or Serial.
4. To exit, tap **OK** on the control bar, or press **<Enter>** on the keypad.
5. To exit the **PC Connection Properties** control panel, tap **OK** on the control bar, or press **<Enter>** on the keypad.

Persistent Registry

Persistent Registry saves the RAM-based registry to persistent storage.

1. Tap **Persist** to persist the registry.
2. Tap **Persist registry settings** to automatically persist the settings at the time specified in the drop-down box
3. Tap **Clear** to delete all persistent registry files from the Flash FX disk.


Persistent Registry Propert...
OK
Persistent Registry
Persist or clear registry settings now or persist settings automatically at a regular interval.
Persist
Clear
Persist registry settings:
Every
1 hour
Warning: automatically persisting the registry at frequent intervals can degrade system performance.

Automatically persisting the registry at frequent intervals may slow system performance.

Power Configuration

To adjust power management settings, select **Start > Settings > Control Panel > Power**. Use this control panel to check the charge on the battery or to change the **Power** settings.

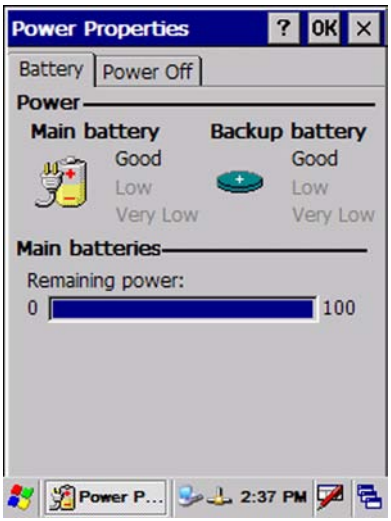
Battery Tab

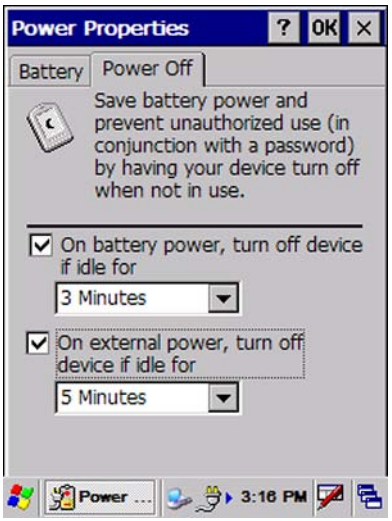
The **Battery** tab provides power indicators for External power, **Main battery**, and **Backup battery** as shown in Figure 2-16 on page 2-22. To save your settings, tap **OK** on the command bar, or press **<Enter>** on the keypad.

Power Off Tab

The **Power Off** tab allows you to determine the idle duration and suspend mode initiation to save battery power as shown in Figure 2-16 on page 2-22. To save your settings, tap **OK** on the command bar, or press **<Enter>** on the keypad.

Figure 2-16. Battery and Power Tabs




Power Properties
OK
Battery
Power Off
Save battery power and prevent unauthorized use (in conjunction with a password) by having your device turn off when not in use.
On battery power, turn off device if idle for
3 Minutes
On external power, turn off device if idle for
5 Minutes
Power ...
3:16 PM

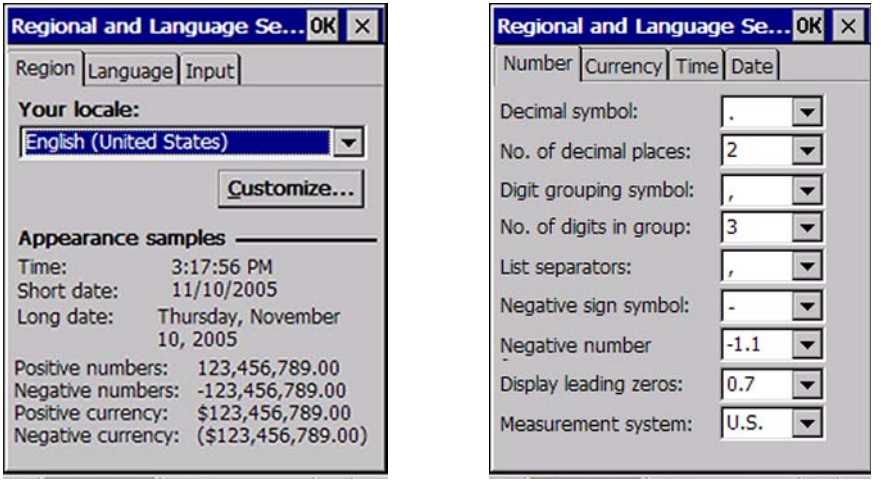
Regional Settings

To change the **Regional Settings** defaults, select **Start > Settings > Control Panel > Regional Settings**.

1. Select your locale from the spin box. See Figure 2-17 on page 2-23.

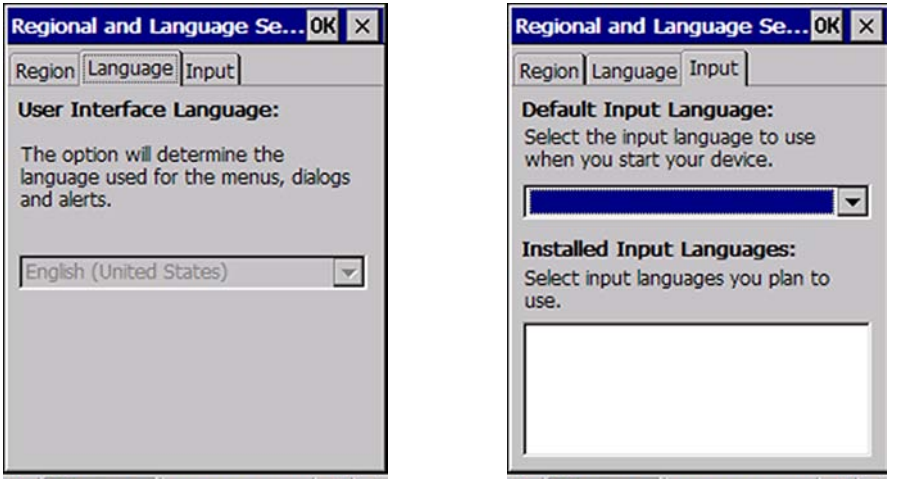
2. Review the **Appearance Samples** in the bottom half of the screen. Click Customize to change the appearance of **Number**, **Currency, Time**, and **Date.**

Figure 2-17. Region and Custom Settings



3. The options on the Language tab are disabled because the Falcon will display only in English.
4. The **Input Panel** will open to facilitate data input.

Figure 2-18. Language and Input Tabs



5. To exit **Regional Settings**, tap **OK** on the control bar, or press **<Enter>** on the keypad.

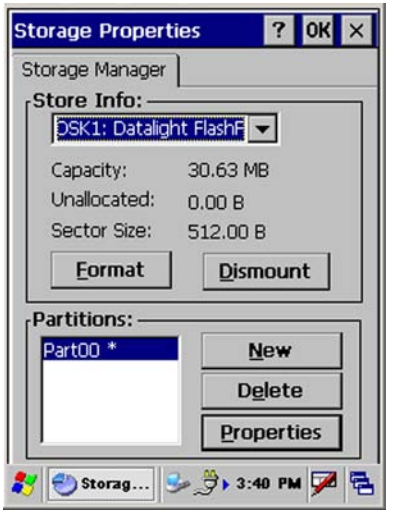
Remove Programs

See "Removing Programs" on page 3-7.

Storage Properties

To change the **Storage Properties** control panel default settings:

1. Select **Start > Settings > Control Panel > Storage Properties**.
2. From the **Store Info** pull-down list, select the desired storage device.
3. You can also format, dismount, and create partitions on storage devices using this control panel.
4. To save and exit the **Storage Properties** control panel, tap **OK** on the control bar, or press **<Enter>** on the keypad.



CAUTION

Dismounting or formatting the FlashFX drive will erase all files and program stored in the drive.

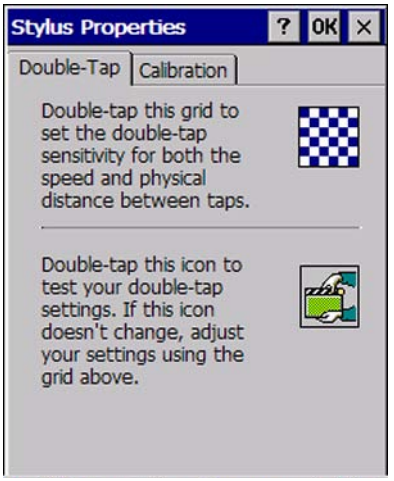
Stylus Calibration

You might need to recalibrate the touch screen (i.e. when you attempt to select one item with the stylus, another item is erroneously selected).

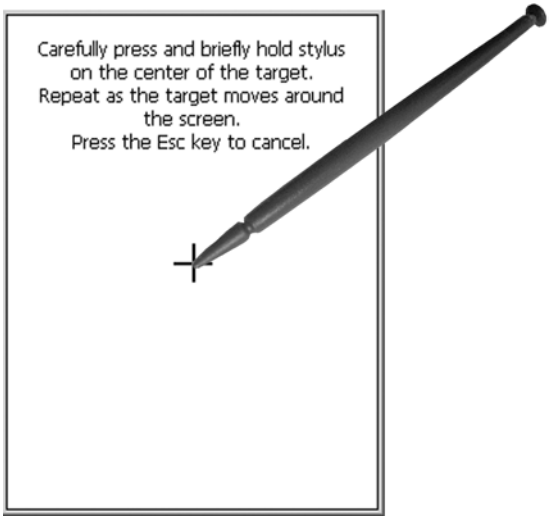
To recalibrate the touch screen, complete the following steps:

1. Select **Start** menu > **Settings** > **Control Panel** > **Stylus** to open the **Stylus Properties** dialog as shown in Figure 2-19 on page 2-25.
2. Adjust **Double-Tap** sensitivity if needed or desired.
3. Select the **Calibration** tab to open the **Calibration** application.

Figure 2-19. Stylus Properties Control Panel


Stylus Properties
?
OK
Double-Tap
Calibration
Double-tap this grid to set the double-tap sensitivity for both the speed and physical distance between taps.
Double-tap this icon to test your double-tap settings. If this icon doesn't change, adjust your settings using the grid above.

4. Tap **Recalibrate** to open the **Calibration** screen shown to the right
5. Carefully press and briefly hold stylus on the center of the target as the target moves around the screen or press **<ESC>** to cancel the stylus calibration.


Carefully press and briefly hold stylus on the center of the target.
Repeat as the target moves around the screen.
Press the Esc key to cancel.

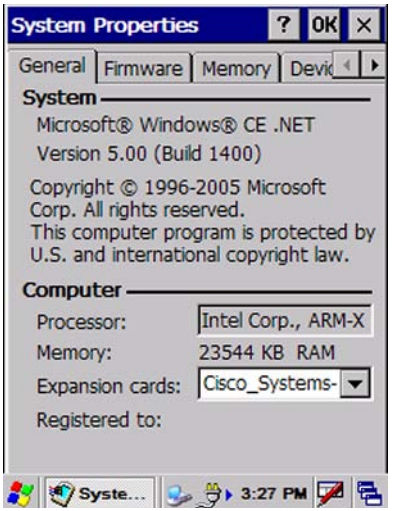
For more information about the touch-sensitive display, refer to “Using the Stylus” and “Navigating the Display” in the *Quick Reference Guide (QRG)*.

System Properties

Refer to the **System** control panel for information related to the system.To view the System properties, select **Start > Settings > Control Panel > System Properties.**

General Tab

To view the expansion card settings, select **Start > Settings > Control Panel > System Properties > General** tab.

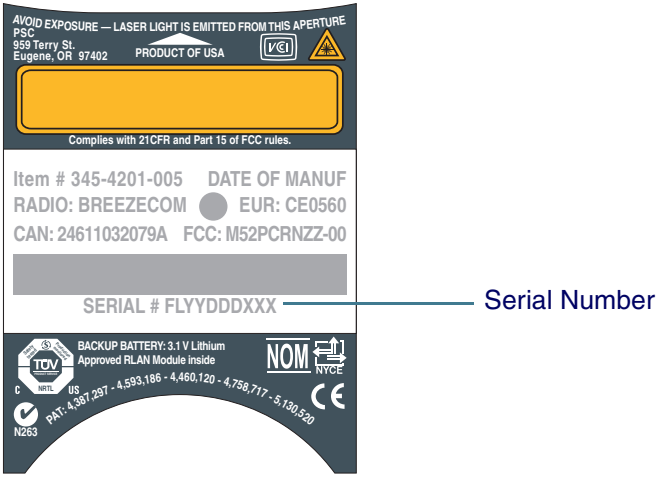


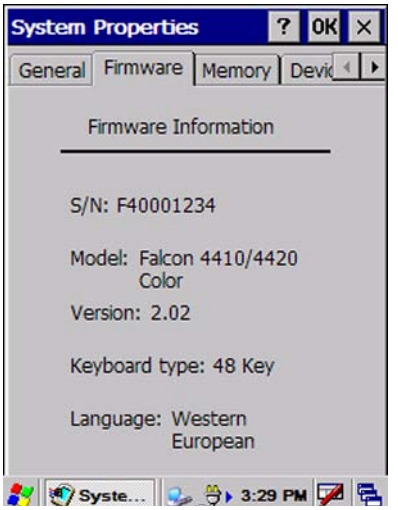
Firmware Tab

Select **Start > Settings > Control Panel > System Properties > Firmware** tab to view the device serial number, model number, firmware version, and keyboard type.

The serial number is also displayed on the safety label on the scanning pod.

Figure 2-20. Serial Number Locations


AVOID EXPOSURE — LASER LIGHT IS EMITTED FROM THIS APERTURE
PSC
959 Terry St.
Eugene, OR 97402
PRODUCT OF USA
Complies with 21CFR and Part 15 of FCC rules.
Item # 345-4201-005 DATE OF MANUF
RADIO: BREEZECOM EUR: CE0560
CAN: 24611032079A FCC: M52PCRNZZ-00
SERIAL # FLYYDDDXXX
Serial Number
BACKUP BATTERY: 3.1 V Lithium
Approved RLAN Module inside
PAT: 4,387,297 - 4,593,186 - 4,460,120 - 4,758,717 - 5,130,520
N263

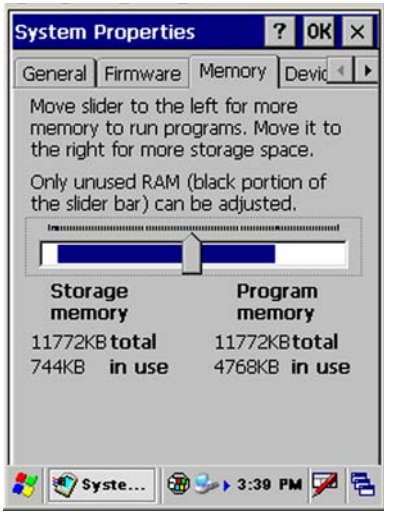


Memory Configuration

RAM Memory Allocation and Usage

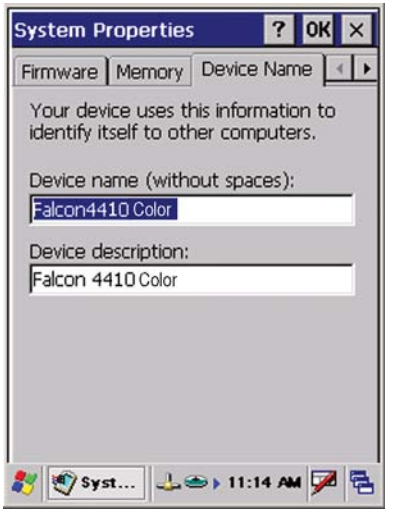
Complete the following steps to adjust the **Memory Allocation** (RAM Memory):

1. Select **Start > Settings > Control Panel > System Properties**.
2. Select the **Memory** tab.
3. Move the slider to adjust memory allocation.
4. Tap **OK**, or **<Enter>** on the Falcon



Device Name

Your device uses this information to identify itself to other computers.



Copyrights

Refer to this tab for specific copyright data. As a user, you are responsible to read this statement.

System Properties
OK
Device Name
Copyrights
Depending upon which components you are running, your product may contain the following third party technologies:
Portions of this software are based on NCSA Mosaic. NCSA Mosaic was developed by the National Center for Supercomputing Applications at the University of Illinois at Urbana-Champaign.Distributed
Syst...
12:23 PM

Volume and Sounds

To change the **Volume and Sound** settings, complete the following steps:

1. Select **Start > Settings > Control Panel > Volume & Sounds Properties** to open the **Volume** settings.

Figure 2-21. Volume and Sounds Control Panels

2. Set the volume by adjusting the slider from **Soft** to **Loud**.
3. Enable the desired sounds for key clicks, screen taps, notifications, and applications.
4. Select the **Sounds** tab to choose from various wave files in the menu.
5. You can listen to the sound by selecting **Preview**.
6. Save your new sound scheme by selecting **Save As** and entering a name for your new Sound Scheme in the field. Delete a sound scheme by tapping **Delete**.
7. Tap **OK** when finished modifying your volume and sounds properties.

NOTES

Chapter 3
Software Applications

Overview

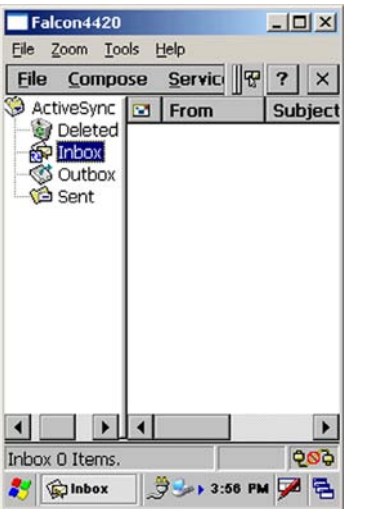
This section contains the following topics:

- "Inbox" starting on page 3-2.
- "Internet Explorer" starting on page 3-3.
- "Media Player" on page 3-4.
- "WordPad" starting on page 3-4.
- "Installing Programs" starting on page 3-5.
  - "Using an Installation Wizard" starting on page 3-5.
  - "Installing Programs Manually" on page 3-6.
  - "Using Windows Explorer to Add to the Start Menu" on page 3-6.
  - "Using ActiveSync to Add to the Start Menu" on page 3-7.
- "Removing Programs" starting on page 3-7.
- "Firmware Update Utility" on page 3-7.
  - "Retrieving a Firmware Image Update" on page 3-8.
  - "Installing FUU on the Host PC" on page 3-8.
  - "Updating the Falcon Firmware" on page 3-13.
  - "Restoring Falcon Firmware" on page 3-14.
- "AutoCAB" on page 3-16.
- "AutoCE" on page 3-17.

Inbox

The Falcon comes with **Inbox** for Windows CE installed from the factory. **Inbox** is a familiar Microsoft email interface. To set up your **Inbox**:

1. Open **Inbox** by selecting **Start > Programs > Inbox**.
2. Select **Services > Options** from the command bar to configure email.
3. Drag the screen to show **Add...**. Select **Add...**.
4. Select the **Service Type** and type the email service name in the **Service Name** text box. Select **OK**.
5. Enter the server and user information in the **Mail Service Definition**.
6. Configure your inbox using the **Mail General Preferences** dialog.
7. Configure your mail retrieval settings in the **Mail Inbox Preferences**.



8. Tap **OK** to complete the **Inbox** configuration.
9. Select **Services > Connect** from the command bar.
10. Select **Services > Send/Receive Mail** from the command bar to manually retrieve mail. Pending email appears in the inbox after connecting.

Internet Explorer

The Falcon comes with **Internet Explorer** for Windows CE installed.

1. Open **Internet Explorer** by selecting **Start > Programs > Internet Explorer**.
2. To set a default home page, navigate to the desired default web page.
3. Select **View > Internet Options** from the command bar.
4. Enter the desired URL in the **Start Page** field.
5. Tap **OK.**

Internet Explorer window with the **Status** bar and **View** menu.

Internet Explorer uses sliding menus for application and navigation control. Tap and drag the sliding menus to the left or right to see the hidden menu items and toolbars.

To achieve more screen real estate in Internet Explorer, you can hide the **Status** bar and **View** menu. From the top menubar, go to **View > Hide Toolbars**.

Once it is hidden, you must cold reset to access these features again. Refer to the *Falcon 4400 Lite Quick Reference Guide (QRG)* for reset instructions.

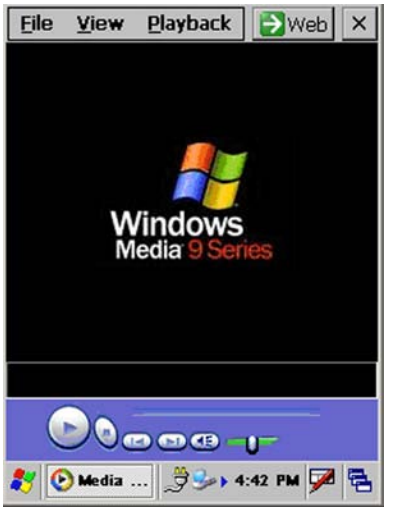
For more fine grained control over the way Internet Explorer is displayed, refer to Falcon® Desktop Utility for Windows® CE, starting on page B-1.

Internet Explorer window with the **Status** bar and **View** menu hidden.

Media Player

The Falcon comes with **Media Player** for Windows CE installed.

1. Open **Media Player** by selecting **Start > Programs > Media Player**.
2. Select **File > Open** to open an available existing media file.
3. Please refer to www.microsoft.com for additional information and help with your Microsoft Windows **Media Player.**



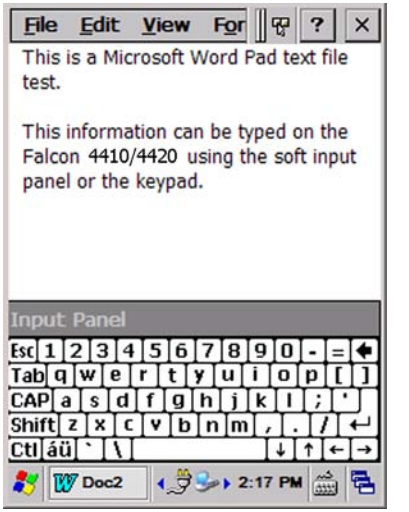
WordPad

The Falcon comes with **WordPad** for Windows CE installed from the factory. The following text and document file types are compatible with **WordPad**:

- Text (**`*.txt`**)
- Word Document (**`*.doc`**)
- Rich Text File (**`*.rtf`**)
- WordPad (**`*.pwd`**)

When file types other than **`*.pwd`** are transferred to the device, Windows CE translates the files into a compressed file type.

To start **WordPad**, select **Start > Programs > Microsoft WordPad**.


File Edit View For
This is a Microsoft Word Pad text file test.
This information can be typed on the Falcon 4410/4420 using the soft input panel or the keypad.
Input Panel
Doc2
2:17 PM

Installing Programs

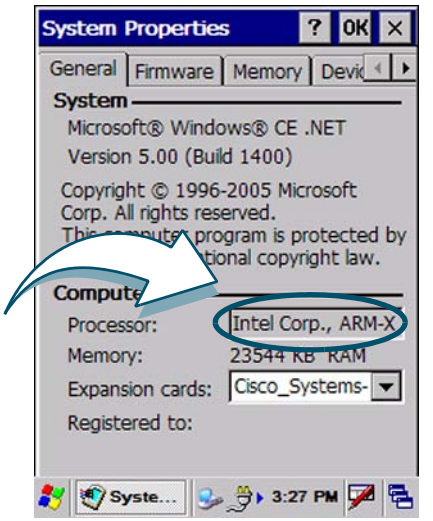
Programs pre-installed on the Falcon are stored in ROM (read-only memory). You cannot remove or modify this software.

You may add programs and data files to RAM (random access memory) or into Flash memory via the FlashFX Disk. You can install **`*.cab`**, **`*.exe`** **`*.zip`** files, or other files designed to run on Windows CE for the Falcon.

Compatibility check

A compatibility check should be done before installing ANY software.

1. Select **Start > Settings > Control Panel > System > General** on the Falcon.
2. Make a note of the information in the **Processor** field as shown to the right. The processor type is required to determine file type compatibility.
3. Follow the installation instructions directions provided with the software.



Using an Installation Wizard

If the file has an installer, the installation wizard begins automatically if you have ActiveSync installed. Most installation programs require an ActiveSync connection. (Refer to "Installing & Setting Up Microsoft ActiveSync" on page 4-1.)

Follow the directions on the screen. Once the software is installed on your desktop computer, the installer transfers the software to your Falcon.

Installing Programs Manually

To quickly install programs on multiple Falcons, use the Falcon Management Utility (**FMU**). For more information, refer to page 2-12.

If the file does not contain an installer, an error message indicates the program is valid but is designed for a different type of computer.

- Install ***.cab**, ***.exe** ***.zip**, **setup.exe** files, or other files designed for the Falcon.
- Windows CE applications will also work on the Falcon.

1. Read the installation instructions, **ReadMe** files, or manual that comes with the program. Many programs provide installation instructions.
   - If you cannot find installation instructions for the program in the **ReadMe** file or manual, use **ActiveSync Explore** to copy the program file to the **Program Files** folder on your Falcon.
   - For more information on copying files using **ActiveSync**, refer to the **ActiveSync** online Help.
2. Connect your Falcon and desktop computer. Refer to Networks, Communications, and Connections, starting on page 4-1 to connect your Falcon with your PC.
3. Double-click the ***.exe** or ***.cab** file.
4. Once the installation is complete, double-tap the program icon from the desktop, or select **Programs > program icon** to select it.

Refer to "Using ActiveSync to Add to the Start Menu" on page 3-7.

Using Windows Explorer to Add to the Start Menu

1. Select **Start > Programs > Windows Explorer**, and select the directory where the application or program is stored.
2. Select **Cut** from the **Edit** menu.
3. Open the **Programs** folder located in the Windows folder, select **Paste** from the pop-up menu.

The program appears on the menu.

Using ActiveSync to Add to the Start Menu

1. Use the **Explorer** in **ActiveSync** on your desktop computer to explore the files on your Falcon and locate the program. For more information on using **ActiveSync**, refer to the **ActiveSync** online Help.
2. Right-click on the program, then select **Create Shortcut**.

Move the shortcut to the **Programs** folder in the Windows folder. The shortcut appears on the menu.

Removing Programs

Only user-installed programs can be removed.

1. To remove a program, select **Start > Settings > Control Panel > Remove Programs**.
2. Select the program you wish to remove from the list and tap **Remove**.

Firmware Update Utility

The Falcon is equipped with a field upgradeable firmware mechanism. Firmware updates for the Falcon are uploaded to PSC's website (www.psc.com). After you have downloaded the desired update, there are several ways you can update the firmware on the Falcon.

- Use the Falcon Management Utility (FMU) if you have multiple Falcons to update. Refer to the *FMU User's Guide* on the Product CD included with your Falcon for more information.
- If FMU is not available or you have only a few Falcons to update, use the Firmware Update Utility (FUU), described below, to install or update the firmware using an ActiveSync connection. Refer to

"Installing & Setting Up Microsoft ActiveSync" on page 4-1 for more information.

FUU can also be used to restore the firmware onto a Falcon that has become corrupted, such as would happen if the Falcon were powered down during an ActiveSync firmware update. See "Restoring Falcon Firmware" on page 3-14.

The following sections provide procedures for the retrieval and installation of the most current firmware image onto a Falcon.

Retrieving a Firmware Image Update

The following instructions use Internet Explorer to retrieve the most current firmware image.

1. Launch Internet Explorer on your PC and navigate to www.psc.com.
2. Navigate to the **Services > Download** section of the website.
3. Select the product, desired language, and software updates. Click **Go!**
4. Select the file you want to download, then click **Save** and navigate to the location where you want to save the firmware files.
5. Click **Save** again to begin copying the files to your local machine (or local network location).

Installing FUU on the Host PC

The Firmware Update Utility (FUU) provides administrators with a field upgrade mechanism. You must have Microsoft® ActiveSync already loaded and running on the host PC to use FUU. Refer to "Installing & Setting Up Microsoft ActiveSync" on page 4-1 and "Using ActiveSync" on page 4-6 for more information about ActiveSync.

Prior to installing FUU, you must remove any previous versions of FUU installed on the host PC.

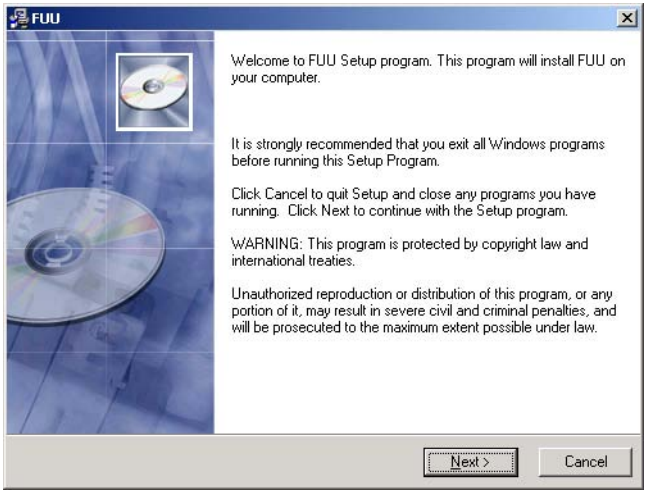
To install PSC's Falcon® Firmware Update Utility, complete the following steps on the PC:

1. Insert the CD ROM shipped with your Falcon and click on the link to **Firmware Update Utility**.

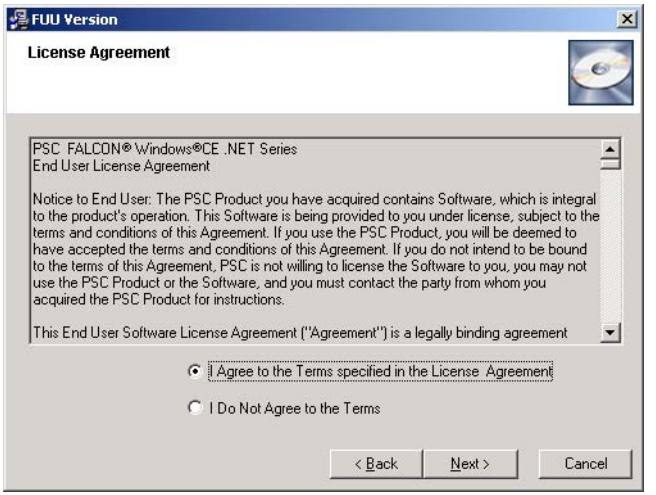
OR
Go to the PSC website at www.psc.com and download the most current version of the Firmware Update Utility. Unzip the file, then double-click to run **FUU_Setup.exe.**

Click **OK** to continue once you have removed previous versions of FUU.

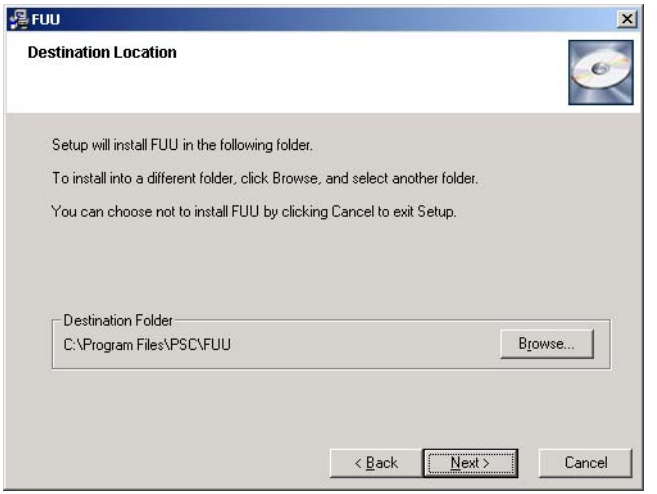
2. The **Welcome to FUU Setup Program** screen opens.
   - Please exit all Windows applications before running this setup.
   - Click **Cancel** to quit Setup and close any programs you have running.
   - Click **Next** to continue with the Setup program.


FUU
Welcome to FUU Setup program. This program will install FUU on your computer.
It is strongly recommended that you exit all Windows programs before running this Setup Program.
Click Cancel to quit Setup and close any programs you have running. Click Next to continue with the Setup program.
WARNING: This program is protected by copyright law and international treaties.
Unauthorized reproduction or distribution of this program, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under law.
Next >
Cancel

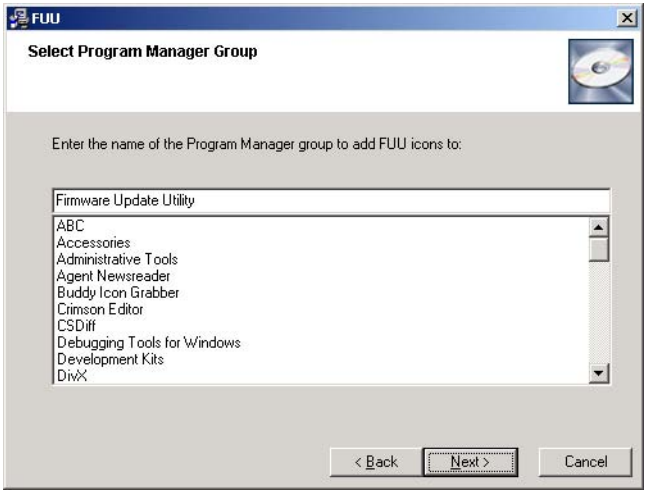
3. You must agree to accept the terms of the **License Agreement** by clicking on the appropriate button.
4. Click **Next** to continue the installation.


FUU Version
License Agreement
PSC FALCON® Windows®CE .NET Series
End User License Agreement
Notice to End User: The PSC Product you have acquired contains Software, which is integral to the product's operation. This Software is being provided to you under license, subject to the terms and conditions of this Agreement. If you use the PSC Product, you will be deemed to have accepted the terms and conditions of this Agreement. If you do not intend to be bound to the terms of this Agreement, PSC is not willing to license the Software to you, you may not use the PSC Product or the Software, and you must contact the party from whom you acquired the PSC Product for instructions.
This End User Software License Agreement ("Agreement") is a legally binding agreement
I Agree to the Terms specified in the License Agreement
I Do Not Agree to the Terms
< Back
Next >
Cancel

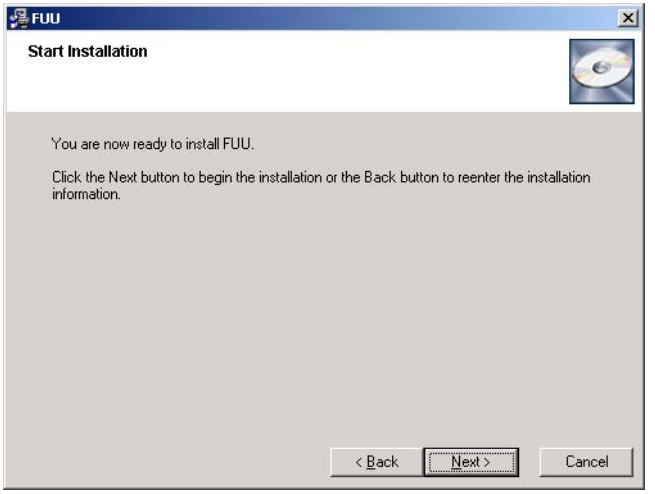
5. The **Destination Location** dialog asks you to confirm the installation location or choose a new location.
   - To choose a new location, click **Browse** and navigate to the desired installation location.
   - Click **Next** to continue the installation.


FUU
Destination Location
Setup will install FUU in the following folder.
To install into a different folder, click Browse, and select another folder.
You can choose not to install FUU by clicking Cancel to exit Setup.
Destination Folder
C:\Program Files\PSC\FUU
Browse...
< Back
Next >
Cancel

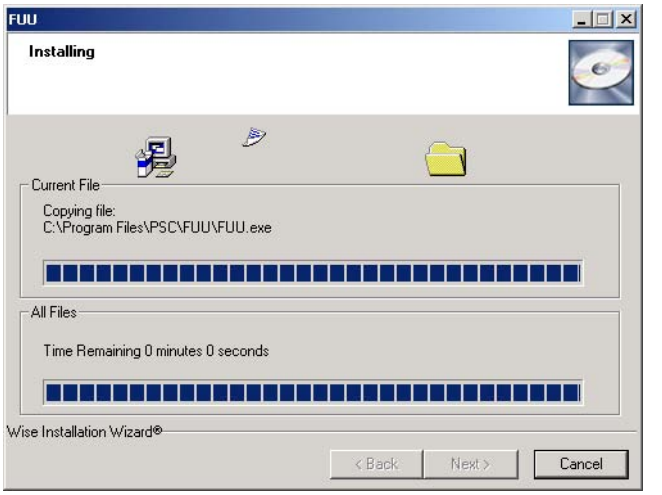
6. The **Select Program Manager Group** dialog opens.
   - Click **Next** to accept the default **Program Manager Group.**
   - Or select a new group and click **Next.**



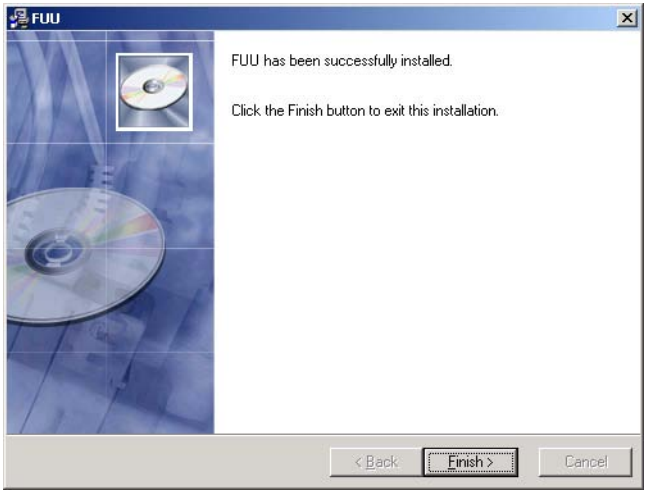
7. The **Start Installation** screen opens.
   Click **Next** to begin the installation.


FUU
Start Installation
You are now ready to install FUU.
Click the Next button to begin the installation or the Back button to reenter the installation information.
< Back
Next >
Cancel

8. The **Installing** dialog will open and close very quickly. You may not even see this screen.



9. Click **Next** to exit the installation.



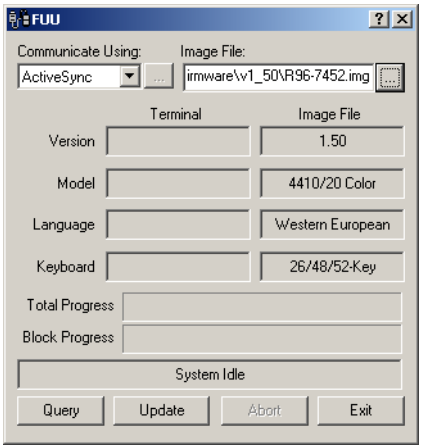
10. Congratulations! You have successfully installed FUU on the host PC.

Updating the Falcon Firmware

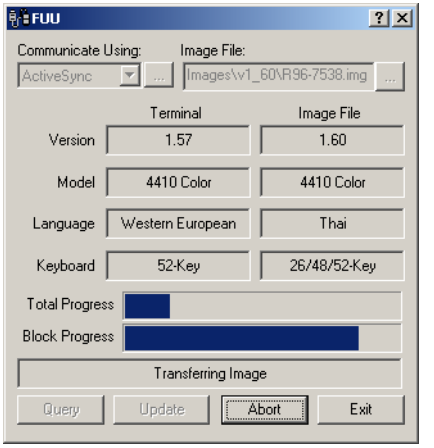
After copying the firmware image to the host PC ("Retrieving a Firmware Image Update" on page 3-8) and installing **FUU** ("Installing FUU on the Host PC" on page 3-8), you can upgrade the firmware on your Falcon.

The following steps require that you have already established an ActiveSync connection between the host computer and the Falcon. To establish an ActiveSync connection with the Falcon, refer to "Installing & Setting Up Microsoft ActiveSync" on page 4-1 *and* "Using ActiveSync" on page 4-6, for more information on ActiveSync.

1. Go to **Start > Programs > Firmware Update Utility > Firmware Update Utility**.
2. Verify that ActiveSync is selected from the **Communicate Using** pull-down list.
3. Click browse (...) and navigate to the location where you saved the firmware file for your terminal.



4. Select the current ***.img** file and click **Open**.
5. Verify that the Falcon is turned on. Insert the device into a powered dock connected to the host computer.
6. Click **Update Terminal** on **FUU** on the host PC.



7. **FUU** will compare the selected firmware image with the firmware already loaded on the Falcon; if the images are different, **FUU** will proceed to update the firmware image on your Falcon.

Please be patient and do not remove the Falcon from the Dock during this procedure. The firmware image of the Falcon can take as long as:

- 3 minutes to download using a USB connection.
- 22 minutes to download using a serial connection with 115K baud rate.
- 130 minutes to download using a serial connection with 19.2K baud rate.

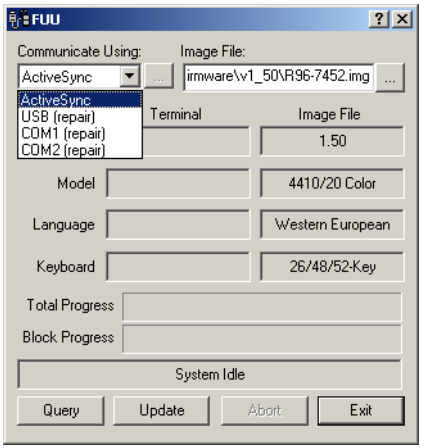
8. After the firmware of your Falcon has been updated, you must perform a warm reset of the Falcon. Refer to the *Falcon 4400 Lite Quick Reference Guide (QRG)* for reset instructions.

Restoring Falcon Firmware

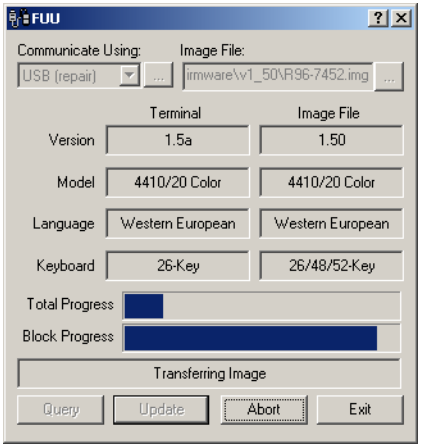
If the firmware image on the Falcon becomes corrupted, the Falcon will beep twice and show a blank screen when powered on. This can happen if a firmware update is aborted, such as during a power loss or if the Falcon is removed from the Dock before completion of the procedure.

To reinstall the firmware, complete the following steps:

1. On the PC, click **Start > Programs > Firmware Update Utility > Firmware Update Utility**.



2. Set **Communicate Using** to the communications port to which the dock is attached to (**`ActiveSync`**, **`USB`**, **`COM1`** or **`COM2`**.)
3. Click browse (**...**) and navigate to the file location.



4. Select the current ***`.img`** file and click **Open**.
5. Verify that the Falcon is turned on. Insert the Falcon into a powered dock connected to the host computer.
6. Click **Update Terminal** on **FUU** on the host PC.
7. **FUU** will restore the firmware on the Falcon as shown on page 3-13.

Please be patient and do not remove the Falcon from the Dock during this procedure. The firmware image of the Falcon can take as long as:

- 3 minutes to download using a USB connection.
- 22 minutes to download using a serial connection with 115K baud rate.
- 130 minutes to download using a serial connection with 19.2K baud rate.

8. After the firmware has been restored, the Falcon will automatically reset.

AutoCAB

The **AutoCAB** program allows the Falcon to automatically reinstall selected applications when the Falcon is cold reset. When the Falcon is reset, the **AutoCAB** program runs automatically and determines if it is a warm or cold reset. If it is a warm reset, the program just exits.

If the Falcon has been cold reset, the **AutoCAB** checks to see if there is a **`FlashFX Disk\CAB`** directory on the Falcon. If not, the program just exits. If the CAB directory is found, the program will step through the files in the directory, calling the Windows CAB file installer for each of the files. Once all of the CAB files have been installed, the program will exit.

As an example, assume you received an application program as a cab file named **`INVENTORY.CAB`**. If the cab file were to be copied to the Falcon and then double clicked, it will be installed and the cab file would be deleted. If the Falcon were to be cold reset, the application would be lost, requiring the cab file to be downloaded and installed again. By copying the cab file to the **`FlashFX Disk\CAB`** directory and allowing **AutoCAB** to run, the application is installed but the cab file is not removed. So if the Falcon is cold reset, the current installation will be removed, but **AutoCAB** will automatically reinstall it.

AutoCE

The **AutoCE** program allows the user to create a list of applications to run when the Falcon is reset. Each application may be designated to run only on a cold reset, or on both warm and cold resets. The applications run sequentially, allowing interdependencies to be handled.

To create the application list, use a text editor to build a file named **autoexec.ini**. This file should contain the fully qualified names of each application to run. Once the file is created, it should be copied into the **FlashFX** disk directory. Any line that begins with a space or a **#** will be treated as a comment and ignored by **AutoCE**. To designate an application to run only at cold reset, begin the line with an exclamation mark.

Please note that any application arguments containing spaces such as directory names must be bracketed by quotation marks.

The following sample **autoexec.ini** file shows the use of quotes around arguments, as well as an example of how to copy files.

```
cmd /C echo "Hello World" > "FlashFX
   Disk\hello.txt"
cmd /C copy "FlashFX Disk\hello.txt" "def.txt"
!cmd /C copy "FlashFX Disk\hello.txt" "FlashFX
   Disk\def.txt"
```

The first line will generate a file in the FlashFX Disk directory named **hello.txt** whenever the Falcon is reset. The second line will copy this file to the root directory as def.txt. The third line will only run when the Falcon is cold reset, and will copy the hello.txt file to def.txt in the FlashFX Disk.

The following sample file demonstrates the use of an application in the FlashFX Disk.

```
#\FlashFX Disk\echobox test comment
\FlashFX Disk\echobox AutoCE Test 1
!\FlashFX Disk\echobox AutoCE Test 3
\FlashFX Disk\echobox AutoCE Test 2
```

The first line begins with a **#** and is treated as a comment. The second line will run the echobox command (sample application program) with two arguments whenever the Falcon is reset. The third line will run echobox, but only when the Falcon is cold reset. The fourth line will again run the echobox command whenever the Falcon is reset.

NOTES

Chapter 4

Networks, Communications, and Connections

Overview

This section contains the following topics:

- "Installing & Setting Up Microsoft ActiveSync" starting on page 4-1.
  - "Installing Microsoft ActiveSync" on page 4-2.
  - "Setting up ActiveSync" on page 4-4.
- "Installing the USB Driver" on page 4-4.
- "Using ActiveSync" starting on page 4-6.
- "Networking" starting on page 4-8.
  - "Setting up the Network ID" starting on page 4-8.
  - "Network and Dialup Connections" starting on page 4-10.
- "SNMP" starting on page 4-11.

Installing & Setting Up Microsoft ActiveSync

This section provides instructions on setting up the Host PC so that the PC can communicate with the Falcon and the dock.

The screen shots in the manual were taken and the procedures were written using Windows® XP. If you are using Windows® 2000 or Windows® NT, appearances and procedures may be slightly different.

Important! You must disconnect any other PDAs, PDTs, or Falcons using USB ActiveSync from the Host PC prior to connecting the Falcon or the Host PC and Microsoft ActiveSync may not recognize the new device.

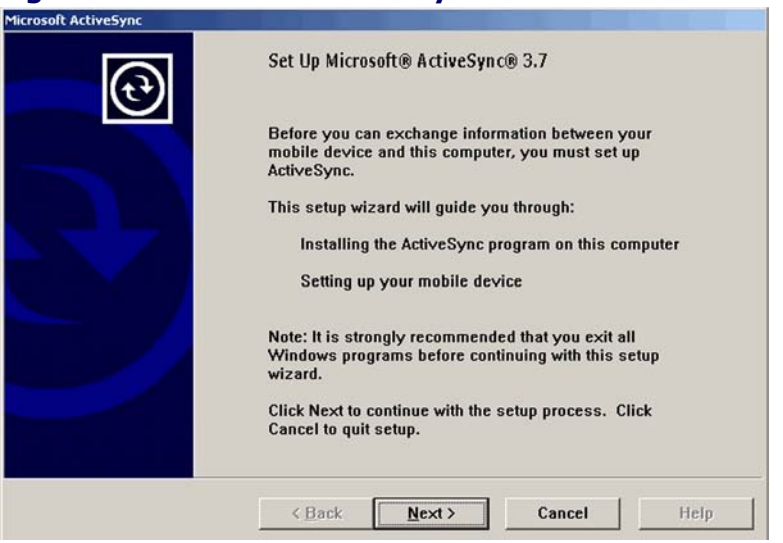
Installing Microsoft ActiveSync

Microsoft® ActiveSync is a file transfer tool used to synchronize the files on a PC with the files on your Falcon. The device comes from the factory with ActiveSync loaded. If you have ActiveSync already installed on your PC, make sure that you have v3.7.1 or higher.

To install Microsoft® ActiveSync on the PC, complete the following steps:

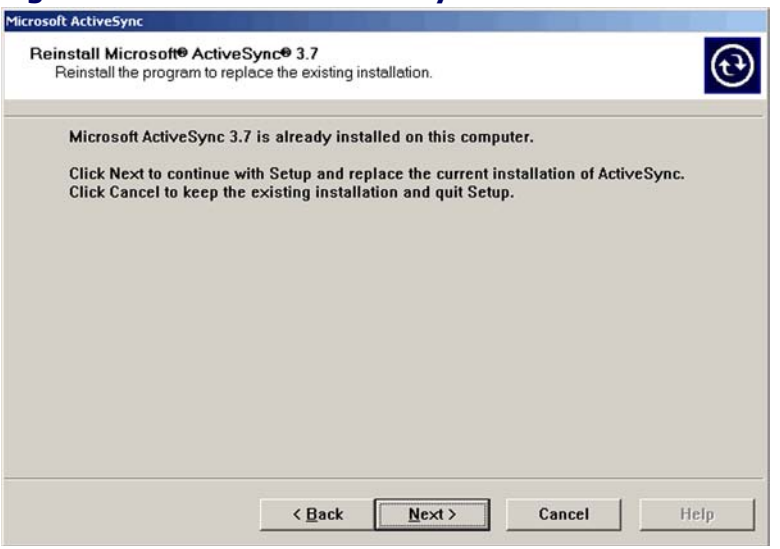
1. Go to the Microsoft® Windows CE website at http://www.microsoft.com/downloads/.
2. Use **Search All Downloads** to find the most current version of ActiveSync.
3. Download the current version of ActiveSync from the Microsoft website.

Figure 4-1. Microsoft ActiveSync Installer


Microsoft ActiveSync
Set Up Microsoft® ActiveSync® 3.7
Before you can exchange information between your mobile device and this computer, you must set up ActiveSync.
This setup wizard will guide you through:
Installing the ActiveSync program on this computer
Setting up your mobile device
Note: It is strongly recommended that you exit all Windows programs before continuing with this setup wizard.
Click Next to continue with the setup process. Click Cancel to quit setup.
< Back
Next >
Cancel
Help

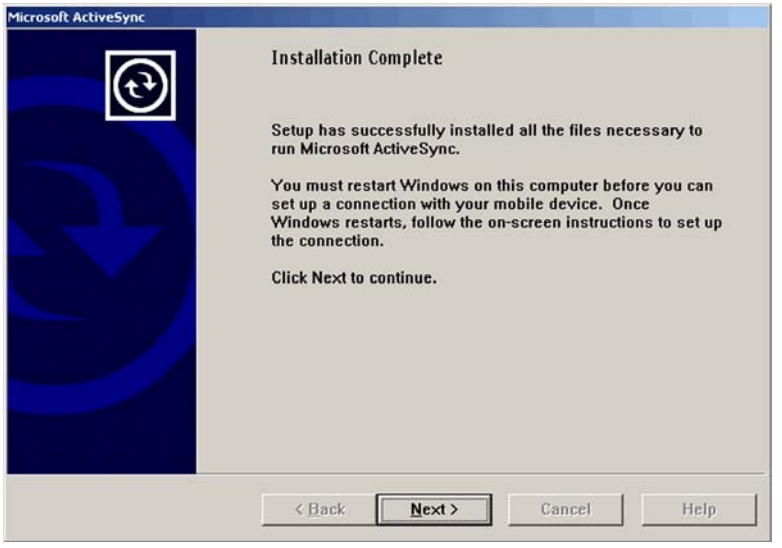
4. Install the most current version of Microsoft® ActiveSync (v3.7.1 or higher) on the host PC (refer to Figure 4-1 on page 4-2).

Figure 4-2. Microsoft ActiveSync Installer


Microsoft ActiveSync
Reinstall Microsoft® ActiveSync® 3.7
Reinstall the program to replace the existing installation.
Microsoft ActiveSync 3.7 is already installed on this computer.
Click Next to continue with Setup and replace the current installation of ActiveSync.
Click Cancel to keep the existing installation and quit Setup.
< Back
Next >
Cancel
Help

5. Click **Next** to continue the installation. Click **Cancel** to cancel the installation of ActiveSync.

Figure 4-3. Microsoft ActiveSync Installer


Microsoft ActiveSync
Installation Complete
Setup has successfully installed all the files necessary to run Microsoft ActiveSync.
You must restart Windows on this computer before you can set up a connection with your mobile device. Once Windows restarts, follow the on-screen instructions to set up the connection.
Click Next to continue.
< Back
Next >
Cancel
Help

6. Reboot your PC.
7. You have completed installing ActiveSync.

Installing the USB Driver

In order for the Host PC to communicate with the Falcon, you must install the USB driver file from the CD that came with the Falcon.

Microsoft ActiveSync must be installed on your computer before proceeding. See "Setting up ActiveSync" on page 4-4.

1. Copy the current USB driver file from your Falcon CD or the PSC website (www.psc.com) to the following location on your computer: **`C:\Program Files\Microsoft ActiveSync\Drivers`**.
2. Connect the USB cable to Falcon or place the Falcon in the dock.
3. Connect the USB cable to a Host PC.
4. Follow the directions onscreen. The specified source directory will be the one identified in step 1.
5. You are now ready to use ActiveSync.

Serial Cable Setup

1. To connect the Falcon using a Serial cable, go to **Start > Settings > Control Panel > PC Connection.**
2. If not already checked, select **Enable direct connections to the desktop computer.**
3. Click on **Change Connection** and select **Serial** from the dropdown box.
4. Click **OK**.

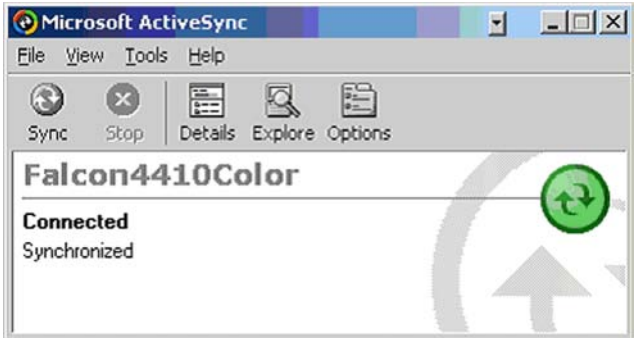
Setting up ActiveSync

Important! If using USB, install the USB driver PRIOR to connecting the Falcon to the host PC.

1. Open ActiveSync from the System Tray of the Host PC.
2. Connect the Falcon to the Host PC via a dock or USB/Serial cable.
3. Verify that the Falcon is turned on.

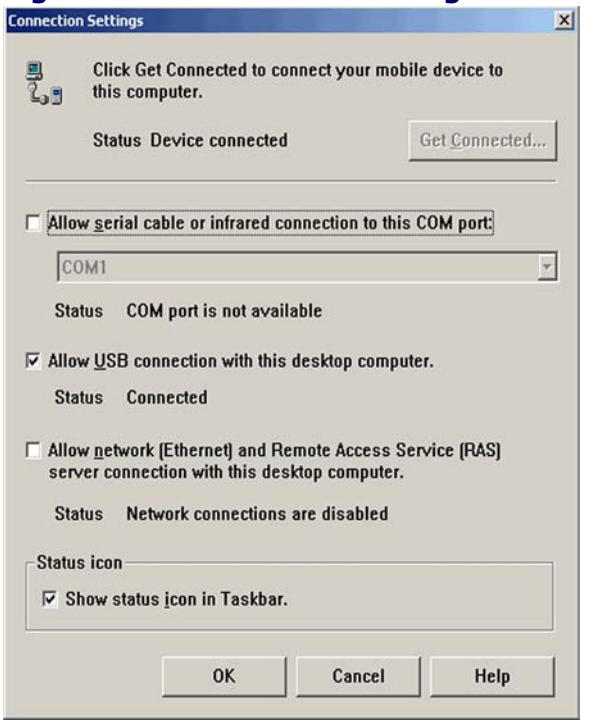
4. Within a minute, the ActiveSync window should appear, attempting to connect to a new device.

Figure 4-4. Microsoft ActiveSync dialog



5. If ActiveSync does not connect within two minutes, try the following:
   - Double-click and open **ActiveSync** from the Host PC's System Tray if it is not already open.
   - Remove the Falcon from the dock and then reinsert it into the dock or disconnect the cable from the Host PC and reconnect it.
   - Select **File > Get Connected** for ActiveSync to look for a mobile device.
   - Go to **File > Connection Settings** and make sure that your Connection Settings dialog show the same selections as that in Figure 4-5 below if you have a USB connection. If you have a serial connection, select the correct COM port from the pull-down list.

Figure 4-5. Connection Settings


Connection Settings
Click Get Connected to connect your mobile device to this computer.
Status Device connected
Get Connected...
Allow serial cable or infrared connection to this COM port:
COM1
Status COM port is not available
Allow USB connection with this desktop computer.
Status Connected
Allow network (Ethernet) and Remote Access Service (RAS) server connection with this desktop computer.
Status Network connections are disabled
Status icon
Show status icon in Taskbar.
OK
Cancel
Help

6. You have completed setting up ActiveSync. Proceed to Installing the USB Driver, below, to install the USB driver.

Using ActiveSync

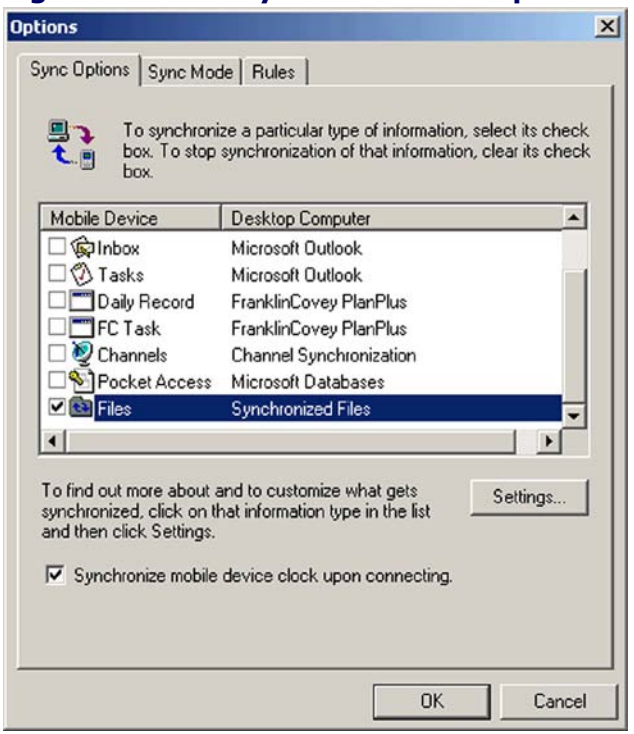
Use ActiveSync to transfer and synchronize (share) files between the Falcon and the Host PC.

File Synchronizing using ActiveSync

ActiveSync file synchronization requires an ActiveSync partnership between the Falcon and the Host PC. Refer to the ActiveSync online help for more information.

1. Select the controls in the synchronization configuration for the Falcon partnership. Refer to Figure 4-6 on page 4-7.
2. Select **Tools > Options** from the ActiveSync command bar to configure the synchronization options.

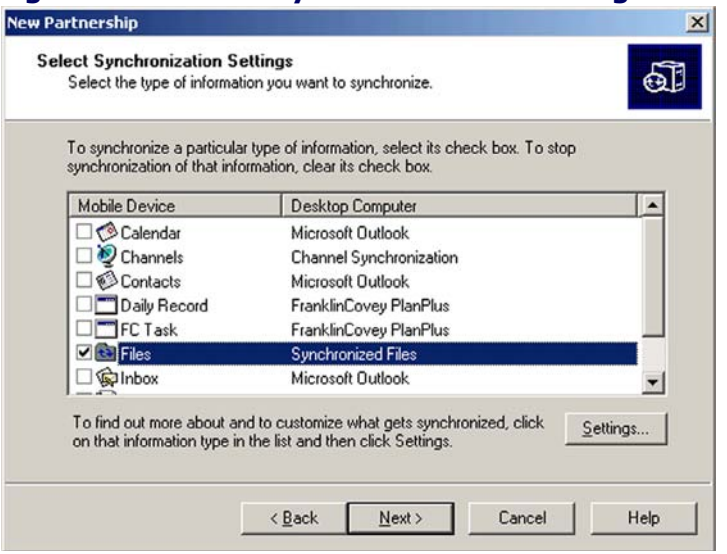
Figure 4-6. File Synchronization Options



3. Place the file to be synchronized in the **Synchronization** folder created in your **My Documents** directory (defaults to the desktop). Refer to Figure 4-7 on page 4-8.

During the ActiveSync connection, all files in the **Synchronization** folder will be synchronized with (copied to) the **\My Documents** directory on the Falcon.

Figure 4-7. Select Synchronization Settings



Networking

Setting up the Network ID

To set up your Network ID (configure the Windows user settings, such as the user name, password, and domain), complete the following steps on the Falcon:

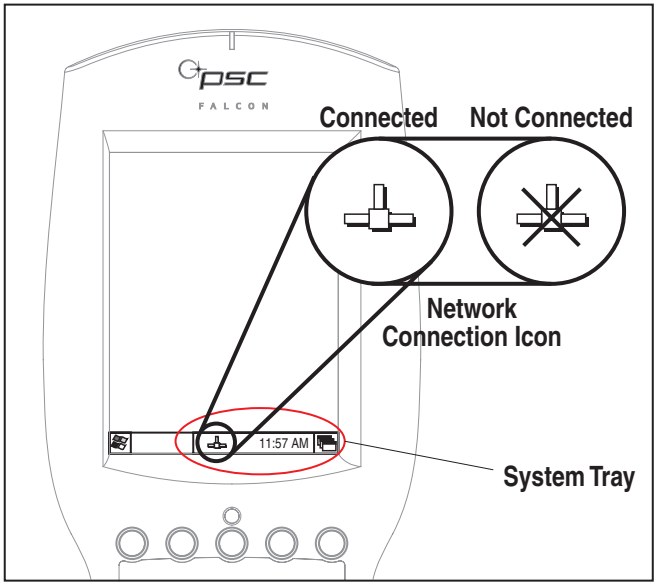
1. Go to **Start > Settings > Control Panel > Owner**.
2. Select the **Network ID** tab on the **Owner Properties** dialog box.
3. Enter your **User Name**, **Password**, and **Domain** on the **Network ID** tab.
4. Select **OK** on the command bar to save your network ID information.

Access basic network connection information by double-tapping on the **Network** icon in the system tray. Tap **Details** to show more information.

The Network Icon

The network icon in the system tray (shown in Figure 4-8) indicates if the network is currently connected or not.

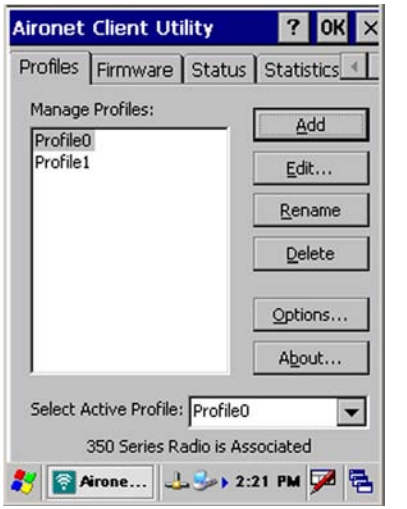
Figure 4-8. The Network Icon



Network and Dialup Connections

RF Configuration Parameters

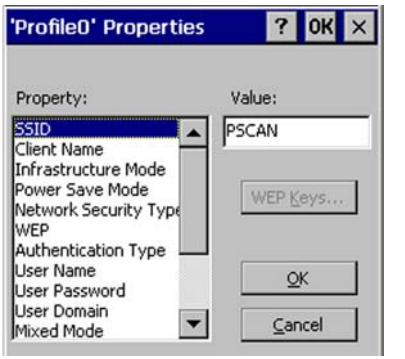
Aironet Client Utility only works for units containing a Cisco radio card.



This utility allows setting different profile combinations for a Cisco RF card, and designating the current profile.The **ACU** also provides firmware updates, site surveys, status and statistics data screens. For further information, see the help file located on your Falcon at: **`Windows\Cisco Setup.htm`**.

To set the RF configuration parameters for the Cisco 802.11b radio, complete the following steps:

1. To open the **Cisco Aironet Client Utility** (**ACU**), go to **Start > Settings Control Panel > Cisco Aironet**.
2. Tap **Edit** to edit the **Active Profile's Properties**.
3. Select the desired **Property** from the menu list.
4. Input the appropriate **Value**.
5. Tap **OK**.
6. Select **OK** on the menu bar to close the control panel.



For additional assistance in using **ACU** to configure your RF network, tap the question mark to access online help or contact Cisco directly at http://www.cisco.com/.

Windows Zero Config should be used to administer the radio for cards not specifically listed (for example, Broadcom based radio). Refer to the manufacturer of your radio card for further information.

SNMP

SNMP (Simple Network Management Protocol) is the standard protocol for managing devices on a network. The Falcon Management Utility (FMU) makes use of SNMP to send and receive configuration information to the PSC terminals. Since the networked terminals are constantly running SNMP, this allows FMU to interface with the terminal at any time, without requiring user intervention on the terminal.

With SNMP running on the terminal, other SNMP based network management tools such as HP Openview® and CastleRock SNMPpc® may also be used to interface with the terminals. To support this capability, PSC has released the Management Information Base (MIB) for the PSC Windows-based terminals. The MIB is used by the management tools to allow them to better support the configuration values provided on the terminals, such as scanner controls and terminal type information.

The MIB is available at www.psc.com.

For more information on SNMP, refer to SNMP Interface**, or go to:** http://www.microsoft.com

NOTES

Appendix A
Accessories

Overview

This appendix covers the following topics:

- "Power Supplies" on page A-1.
  - "Battery Pack" on page A-2.
  - "Single-Slot Dock" on page A-2.
  - "Four-Slot Dock" on page A-3.
  - "Battery Charger" on page A-3.
  - "Serial Charging Cable" on page A-4.
  - "USB Cable" on page A-4.
  - "Printer Cable" on page A-4.
  - "Serial Printer Adapter" on page A-4
- "Holsters and Softcases" starting on page A-6.
  - "Holsters" starting on page A-6.
  - "Softcases" starting on page A-7.
- "Installing the Handle or Handstrap" starting on page A-8.
  - "Installing a Handle on the Falcon 4410" on page A-9.
  - "Installing the Handstrap on the Falcon 4420" on page A-8.

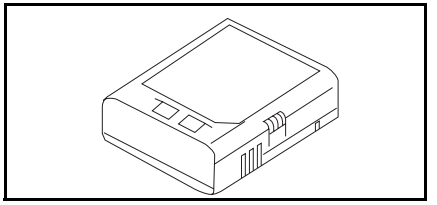
Contact your PSC reseller for accessories and supplies for the Falcon; you can see the options in this appendix or in the PSC price book at www.psc.com.

Power Supplies

Use only the correct battery chargers and docks with this Windows CE Falcon. This technology used for these models is incompatible with other PSC Falcon chargers and docks.

Battery Pack

Figure A-1. Battery Pack



Single-Slot Dock

Figure A-2. Single Slot Dock

Four-Slot Dock

Figure A-3. Four-Slot Dock

Battery Charger

Figure A-4. Four-Slot LiIon Battery Charger

USB Cable

See Figure E-1 on page E-1.

Serial Charging Cable

See Figure E-2 on page E-2.

Printer Cable

See Figure E-3 on page E-2.

Serial Printer Adapter

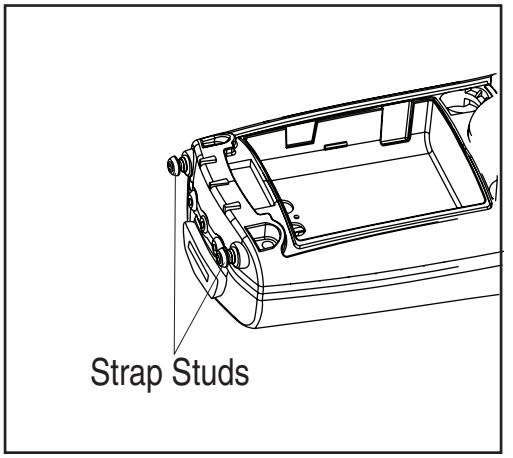
The Serial Printer Adapter attaches to the bottom of a Falcon unit and allows you to print directly to a printer.

Figure A-5. Serial Printer Adapter

To attach the printer adapter to a Falcon, you must remove the strap studs, as well as the optional strap stud bumpers, if present. Use the procedure that follows.

Removing Strap Studs

Figure A-6. Strap Studs



1. Use a 5/64” Allen wrench (included with the printer adapter) to loosen and remove each Strap Stud.
2. Once you have removed the strap studs, attach the adapter to the Falcon by tightening the thumbscrews on the adapter.

Figure A-7. Attaching the Serial Printer Adapter

Holsters and Softcases

A holster and a softcase are available that will work with both the Falcon 4410 and the handled Falcon 4420 models.

Holsters

Figure A-8. Three Holster Views

- Quick release swivel belt mount (clip on both sides for left or right mount)
- Heavy duty nylon

Softcases

Figure A-9. Softcase for Handled Falcon 4420

- Belt clip option
- Stylus holder
- Open cover
- Heavy duty nylon
- Scanner window

Installing the Handle or Handstrap

The Falcon 4420 comes from the factory with the handle installed. The Falcon 4410 comes with a handstrap. These can be exchanged with a change-out kit. The handle is removable and can be replaced with a handstrap. When you replace the handle with the handstrap, you lose the ability to press the trigger on the handle and must use the **<Scan>** key on the Falcon keypad instead.

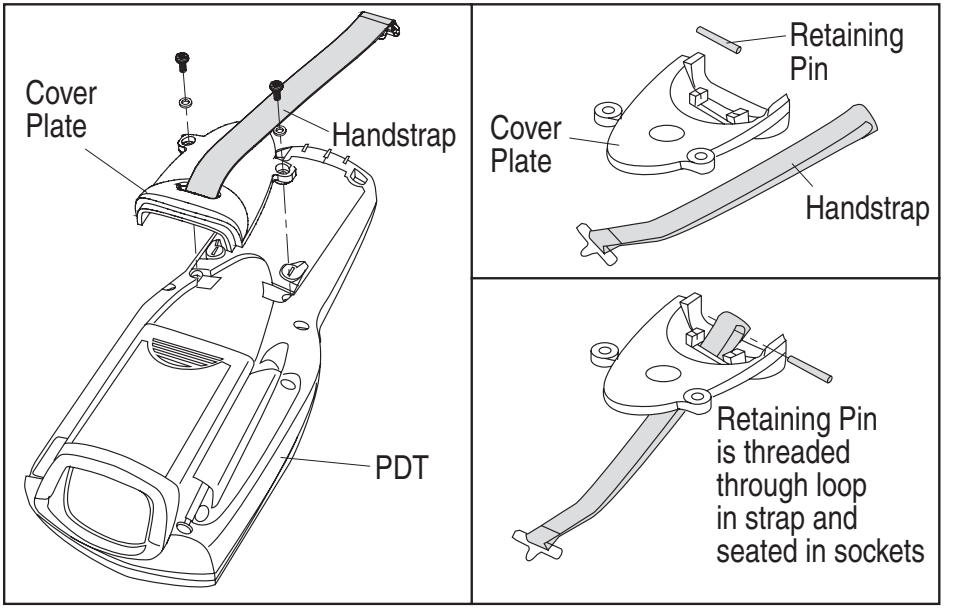
To remove the handle and replace it with the handstrap refer to the following sections. Reverse the same directions to replace the handstrap with the handle.

Installing the Handstrap on the Falcon 4420

To install a handstrap on the Falcon 4420, complete the following steps:

1. Remove the handle as shown in Figure A-11 by removing the screws located just above the battery cover's latch dials.
2. Insert the top tab of the handstrap cover into the slot at the top of the handle recess (refer to Figure A-10).

Figure A-10. Removing/Replacing a Handstrap



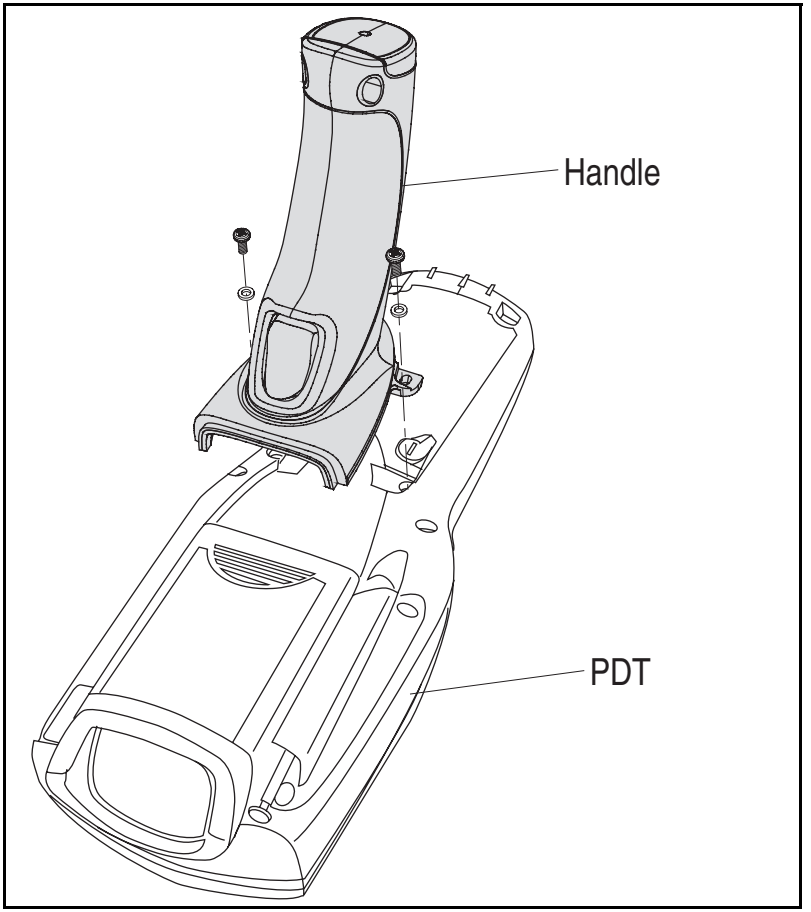
3. Replace the screws located just above the battery cover's latch dials.
4. Connect the handstrap hook onto one of the strap studs at the base of the Falcon. The process is complete.

Installing a Handle on the Falcon 4410

To install the handle on the Falcon 4410, complete the following steps:

1. Remove the handstrap as shown in Figure A-10 by removing the screws located just above the battery cover's latch dials.

Figure A-11. Removing/Replacing the Handle



2. Insert the top tab of the handle into the slot at the top of the handle recess (refer to Figure A-11).
3. Replace the screws located just above the battery cover's latch dials.
4. The process is complete upon successful test of the trigger function.

NOTES

Appendix B
Falcon® Desktop Utility for Windows® CE

Overview

Falcon® Desktop Utility (FDU) allows PSC Falcon® Windows® administrators to configure Falcon Windows®CE Falcons to control individual user access. This includes:

- Prevent users from changing Falcon OS settings.
- Define keys to access specific functionality/programs.
- Use Application Selector to replace desktop with a selection of authorized applications.
- Internet Explorer access restriction, configuration and customized recovery mechanisms.

This section covers the following information:

- "Falcon Desktop Utility" on page B-2
  - "Administrative Options" on page B-3.
  - "Setting Hot Keys" on page B-5.
  - "Internet Explorer Configuration" on page B-9.
  - "Modifying Windows Controls" on page B-10
  - "Add Application" on page B-12.

Falcon Desktop Utility

To open the **FDU** for the first time, select **Start > Settings > Falcon Config**.

Figure B-1. Accessing FDU

These options are available from all screens:

Table B-1. Options Available on all Screens

Command	Description
OK	Tap **OK** to apply the settings and modifications you have made in the FDU tabs. **OK** saves every modification.
X	Tap **X** to cancel the settings and modifications you have made in the FDU tabs. **X** cancels all modifications you have made in **FDU**.

Administrative Options

When you open the Falcon **Admin** control panel, the **FMU** tab will open. Select the **Admin** tab to set up FDU.

Figure B-2. Setting a Password/Admin Tab Fields

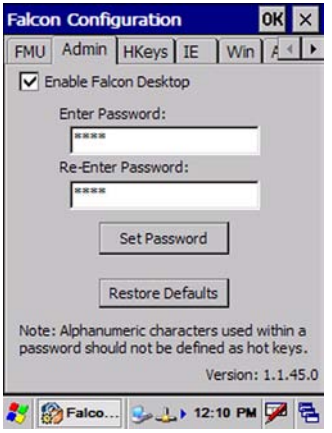


Table B-2. Setting a Password/ Admin Tab Fields

Command	Description
Enable Falcon Desktop	Select/tap this checkbox to activate the **FDU** functions such as Hot Key assignments, IE Restrictions, Windows Settings, and the authorized application menu.
Enter Password	Enter a password in the text box. This allows the user to specify a password when this utility is launched. By default there is no password. A password can consist of all standard keyboard characters.
Re-Enter Password	Carefully re-enter the password in the second text box.
Set Password	Select/tap **Set Password** to enable the password. To change or remove the password, enter a new value, re-enter the new value, and select/tap **Set Password**.
Restore Defaults	Select/tap **Restore Defaults** to reset the default values of all the functions on all the tabs. After you select this option, you will receive a prompt to verify this selection.

Setting a Password

To set a password:

1. Enter a password in the field. This allows the user to specify a password when this utility is launched. By default there is no password set.

Be sure to record the Password for future reference.

2. Re-enter the password in the second field.
3. Select/tap **Set Password** to enable the password.
4. Select/tap **OK** close the **Set Password Confirmation** dialog.

You must select/tap Set Password prior to exiting FDU in order to store and activate your new password. It is not necessary to select Enable Falcon Desktop.

If you select/tap Restore Defaults it will remove all custom settings and restore all the factory default settings, except a previously set password.

CAUTION

Changing a Password

To change to a new password:

1. Enter a new value in the **Enter Password** field.
2. Re-enter the new value in the **Re-enter Password** field.
3. Select/tap **Set Password**.

Removing a Password

To remove a password:

1. Enter blanks in both **Password** fields.
2. Select/tap **Set Password**.

Password Request Dialog Box

Once the password is set, the next time you open the **Falcon Desktop Utility**, the **FDU Password** dialog box opens.

This dialog box will only open if a password was defined.

Figure B-3. Setting a Password

Table B-3. Setting a Password Dialog

Command	Description
Enter Password	Enter your password using the keypad, or using the stylus on the soft input panel (**SIP**) in the text box.
OK	Select/tap **OK** to accept the password.
X	Select/tap **X** to cancel the request to start the **FDU**.

Complete the **FDU Config** dialog:

1. Type in your password using either the keypad on the unit, or using the stylus on the soft input panel (**SIP**).
   If you enter an incorrect password, the system will prompt you to input the correct one.
2. Select/tap **OK** to verify the password. Or tap **X** to cancel.

Setting Hot Keys

You can use Hot Keys (HKeys) Tab to associate specific keys, such as **<F1>-<F10>,** with specific applications. You can also create a new **Hot Key** combinations ("Adding a New Hot Key" on page B-7). Select the **HKeys** tab to access these options.

New and Delete options for Hot Keys are only available on the Falcon 4400 Lite units.

For example, you could set **<F2>** to launch a sample application like: **`\Windows\pword.exe`**.

Figure B-4. Hot Keys Tab

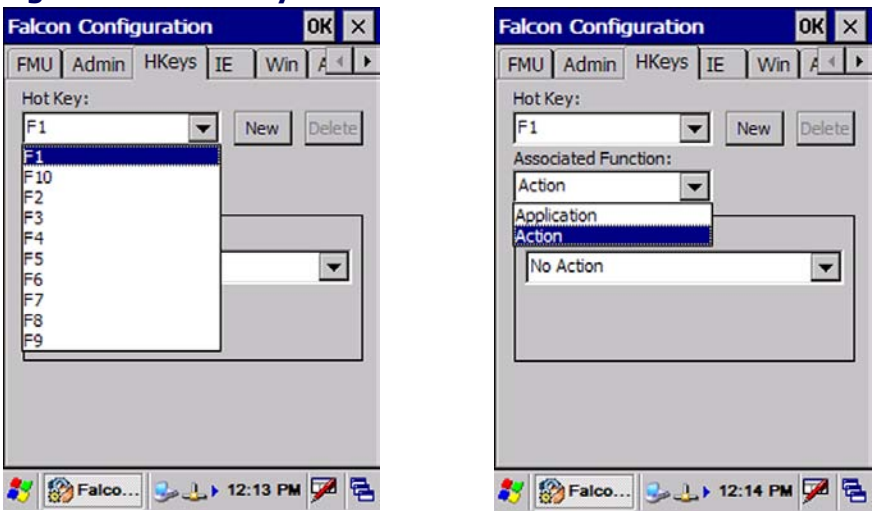


Table B-4. Hot Keys Tab Fields

Command	Description
Hot Key	This pull-down list displays the available function keys to define. Select the desired one from the list.
New	Select/tap to specify a new Hot Key, not on the **Hot Key** list. This opens a new dialog, shown on page B-7.
Delete	Tap to delete the selected **Hot Key**. You can only delete the Hot Keys you have added. You cannot delete **<F1> -<F10>**.
Associated Function	This pull-down list displays the available functions. Select either **`Application`** or **`Action`**.
Application	Displays path to the selected application.
Browse	Select/tap ... to browse for application files. You can associate an executable program with the specified **Hot Key**.

Command	Description
Arguments	Type the command-line arguments that are needed for the specified application. This option is only available when **Application** is selected in the **Associated Function** pull-down list.
Action	Specify an action to associate with a **Hot Key**. This list includes: **SIP**, **toggle Taskbar**, **FDU Admin**, and **Application Switcher**. This option is only available when **Action** is selected in the **Associated Function** pull-down list.

The **<F6>** is the key initially assigned to **FDU** Admin:

If you wish to assign this key to a different function, you must first select an unassigned Hot Key and assign it to the Action - **FDU** Admin. You can then go back and reassign the **FKey** to something else.

Table B-5. Falcon Models/Hot Keys Available

Falcon 4400 Lite		
26-key models	**48-key models**	**52-key models**
Alpha-numeric	Alt + Alpha-numeric	Alt + Alpha-numeric
F1-F19	Alt + F1-F10	Alt + F1-F20
	F1-F10	F1-F20
	Alpha-numeric	Alpha-numeric

The administrator is responsible for verifying that these keys don't override existing functions. To prevent FDU Hot Keys from overriding existing application keys, select "No Action" in the Action combo box.

Adding a New Hot Key

When you select **New** on the **HKeys** tab, this opens the **Add New Hot Key** dialog box.

To define a new Hot Key, complete the following steps:

1. Enter the key combination to define a new Hot Key in the **Enter Key** textbox.

2. The **Note** displays important information indicating Hot Keys that should not be used.

Figure B-5. Add a New Hot Key Dialog

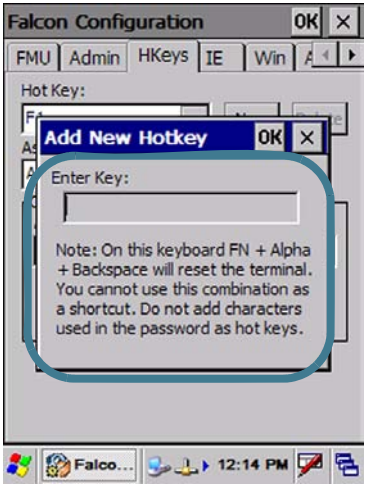


Table B-6. Adding a New Hot Key Dialog

Command	Description
Enter Key	Enter the desired key combination in this text box to define a Hot Key.
OK	Select/tap **OK** to add the specified Hot Key.
X	Select/tap **X** to cancel the specified Hot Key.

Make sure you do not attempt to add a Hot Key that is already defined.

3. Select/tap **OK** to save the **New Hot Key**. If you select/tap **X**, the key will not be saved.

It is possible for the keyboard wedge to activate assigned Hot Keys using alpha-numeric characters. Bar codes containing characters associated with assigned Hot Keys will trigger the action or application assigned to that Hot Key.

Internet Explorer Configuration

Tap the **IE** (Internet Explorer) tab to access the **IE Configuration** option. Use the **IE Error Redirection** option to provide customized recovery from common **IE** errors. When an error occurs, the browser can redirect access to a specified error page with instructions on how to recover from the problem.

Figure B-6. IE Configuration Tab / IE Window Features

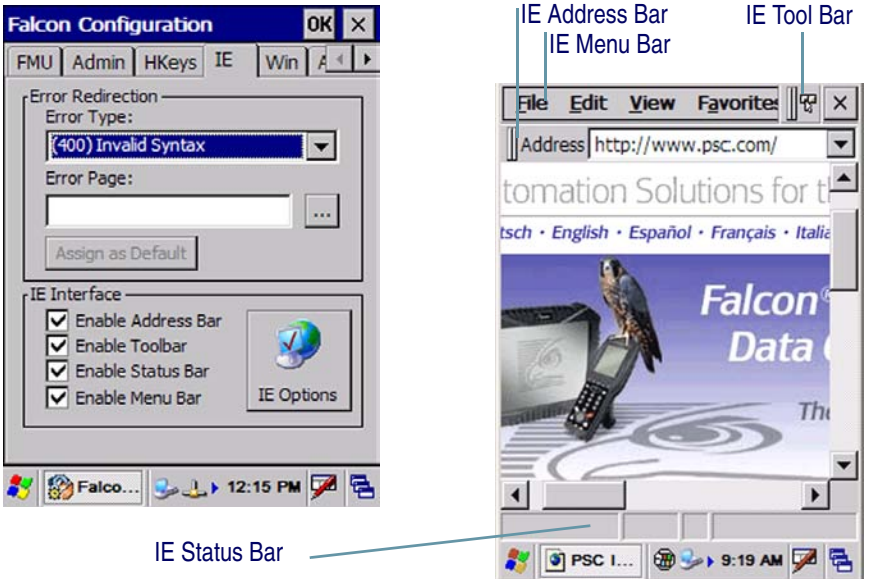


Table B-7. IE Tab Fields

Command	Description
Error Type	The **Error Types** pull-down list displays available **IE Error Types**:
	(400) Invalid Syntax, (403) Request Forbidden, (404) Object Not Found, (406) No Response Format, (410) Page Doesn't Exist, (500) Internal Server Error, (501) Server Can't Do That, Generic Error, Server Is Busy, Couldn't Find Server, URL Syntax Error, Request Cancelled, Not Available Offline
Error Page	Edit this textbox to associate a website or html file with the specified error.
Assign as Default	Select/tap to set a specified error page as the default. A confirmation dialog opens to ask if the default error page applies to all errors.
Browse	Select/tap to browse for files. ...
Show Address Bar	Select/tap this check box to show the **IE** address bar.

Command	Description
Show Tool Bar	Select/tap this check box to show the **IE** toolbar.
Show Status Bar	Select/tap this check box to show the **IE** status bar.
Show Menu Bar	Select/tap this check box to show the **IE** menu bar.

Internet Options

Tap **Internet Options** on the **IE** tab to open the Windows CE **Internet Options** control panel. Customize these settings as necessary.

The Internet Options control panel applet is part of the Microsoft® Windows® CE operating system.

For more information on the Windows CE operating system, please refer to the Microsoft website at http://www.microsoft.com.

CAUTION

The FDU allows you to cancel prior to applying your changes. However, any settings modified in the Internet Options control panel applet through the FDU interface will be applied even if you later cancel the your modifications in the FDU.

Modifying Windows Controls

Select/tap the **Win** (Windows Controls) tab to access the **Windows Controls** option. Use Windows controls to allow or restrict access to Windows system functions.

You can disable normal Windows functions such as the desktop and taskbar, leaving nothing but a blank workspace. This allows applications to be run on the full screen and prevents users from accidental or unauthorized use of the taskbar, Internet Explorer, and any other resident applications.

Figure B-7. Windows CE Desktop and Win Tab

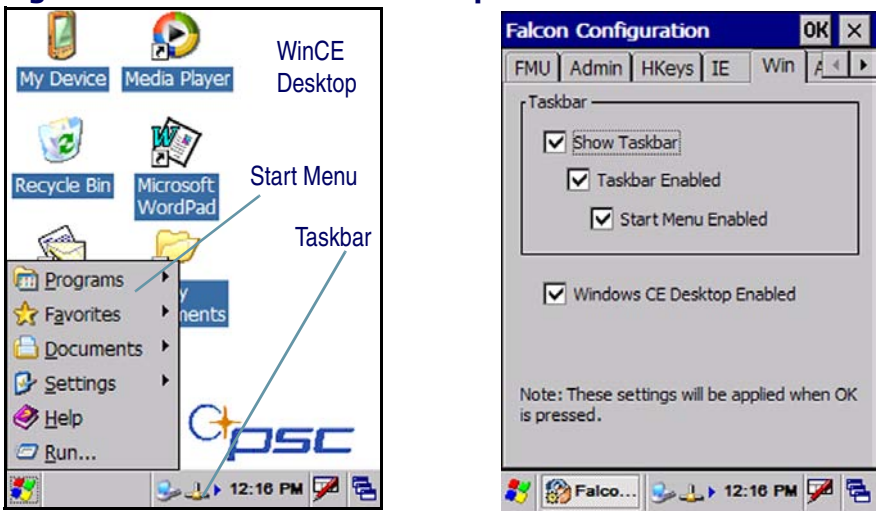


Table B-8. Win Tab Fields

Command	Description
Show Taskbar	Select/tap **Show Taskbar** to specify that the taskbar is shown or hidden.
Taskbar Enabled	Select/tap **Taskbar Enabled** to specify whether the taskbar is accessible. This option is only available when the **Show Taskbar** is checked.
Start Menu Enabled	Select/tap **Start Menu Enabled** to specify whether the **Start** menu is accessible or not. This option is only available when both **Show Taskbar** and **Task Bar Enabled** are checked.
Windows CE Desktop Enabled	Select/tap **Windows CE Desktop Enabled** to specify that the desktop icons are accessible or not.

Application Selector

Use the **Application Selector** (AppSelect Tab) function to edit, add, or delete applications for the application selector.

Figure B-8. AppSelect Tab

Table B-9. AppSelect Tab Fields

Command	Description
Enable Application Selector	Select/tap **Enable Application Selector** to enable/disabled the application selector. When this is enabled, the **Application Selector** replaces the desktop and allows only authorized use of applications.
Authorized Applications	This is a list of applications that the user may access.
New	Select/tap **New** to create a new application entry.
Edit	Select/tap **Edit** to edit the selected entry.
Delete	Select/tap **Delete** to delete the selected entry.
Up/Down	Select/tap **Up/Down** to move an entry up or down in the listview.

Add Application

The **Add Application** dialog opens when you tap either **New** or **Edit**.

From the **Add Application** dialog the administrator can configure and/or add/change an a new application entry in the list.

Applications with the **Run Application at Startup** option enabled will start automatically when the **Application Selector** starts up.

Figure B-9. Add Application Dialog

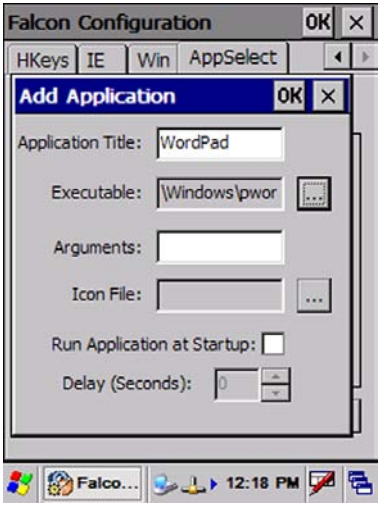


Table B-10. Add Application Dialog

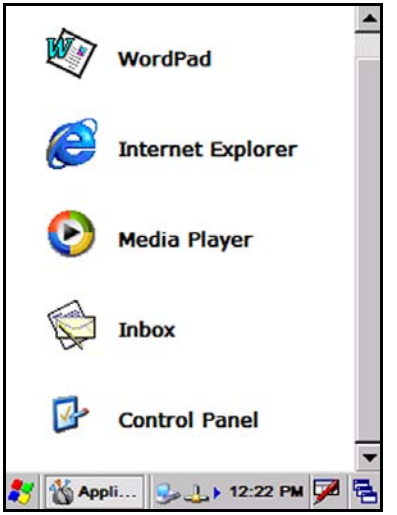
Command	Description
Application Title	Type the name of the application in this textbox in the way you wish it to appear for the user.
Executable	Displays the path for the executable file which you want to run.
Browse	Select/tap ... to browse for the desired executable file. The results of this search are placed in the **Executable** textbox.
Arguments	Type any command line arguments to be used when an application is executed.
Icon File	Displays the path/link to the desired icon file.
Browse	Select/tap ... to browse for the desired icon file. The results of this search are placed in the **Icon File** textbox.
Run Application at Startup	Select/tap this box to force this application to auto start when the Application Selector starts up. Applications will be started in the order listed in the authorized application list.
Delay	Enter a delay duration in seconds in the combo box. This option delays auto start of application(s) to allow drivers to load prior to starting applications

Command	Description
OK	Select/tap **OK** to add/save changes.
X	Select/tap **X** to cancel the creation of this entry.

Application Selector

The administrator can choose for the user to have access to the desktop or not. The Application Selector can replace the desktop and limit the user to the specified list of applications.

Figure B-10. Application Selector



The user can select/tap the desired application.

The administrator can customize this list as shown in "Application Selector" on page B-11.

Application Switcher User Interface

The application switcher provides the same functionality as the standard Windows® Alt+Tab function. This allows the user to cycle through the various open applications.

The <Esc> key can be used to close the Application Switcher.

The application switcher is activated via an assigned **Action** key specified in the **Hot Key** tab. (Refer to "Setting Hot Keys" on page B-5.) When the assigned **Hot Key** is pressed, the dialog shown to the right will be displayed.

The application switcher can only be assigned to a single **Hot Key**, not a **Hot Key** with modifier keys. For instance, **<Shift>+<F3>** cannot be assigned to the task switcher action, but **<F3>** can be.

Press the **Hot Key** assigned to open the application switcher. Press the assigned **Hot Key** to cycle through the running applications when the dialog is open. Press **<Enter>** to switch to the selected application or **<Esc>** to close the application switcher.

NOTES

Appendix C
Configuring the Web Server

Overview

The Web Server can perform several different actions, including generating a web page containing statistics relating to performance of the mobile computer. The Web Server can also be used for creating an interface for interaction with the Terminal to configure system behavior.

This section contains the following topics on configuring the Web Server:

- Enabling the Web Server below.
- "Testing the Web Server" on page C-3.
- "Launching the Network Administration Page" on page C-4.
- "Web Server Registry Settings" on page C-4.
- "Creating and Using an ISAPI Service" on page C-6.

Enabling the Web Server

By default the Web Server is disabled. The following demonstrates how to enable the Web Server:

1. On the Falcon 44xx, either through a CE-based registry editor or using the Remote Tools RemoteRegEdit included with eVC++ 4.0, modify the following registry entry:

   [HKEY_LOCAL_MACHINE\COMM\HTTPD]

   "Enabled"=dword:1

2. In a Command Prompt window on the Terminal, type the following:

   \> services list

   This will display a list of loaded and services and their state.

3. If the service **HTP0:** is not listed, then type the following to load the HTTP Web Server:

   \> services load httpd

4. If the service is listed and not running, type the following to start the HTTP Web Server:

   ```
   \> services start HTP0:
   ```

5. To restart the Web Server, type:

   ```
   \> services refresh HTP0:
   ```

This will cause the Web Server to reload any information pertaining to the Web Server in the registry. For additional information on the registry entries, see "Web Server Registry Settings" on page C-4.

To configure the Web Server to allow access to the Web and Net administration pages:

1. On the Falcon 44xx create the following registry entries:

   ```
   [HKEY_LOCAL_MACHINE\COMM\HTTPD\VROOTS\/NetAdmin]
   "Default" = "\windows\natadmin.dll"
   [HKEY_LOCAL_MACHINE\COMM\HTTPD\VROOTS\/WebAdmin]
   "Default" = "\windows\httpdadm.dll"
   ```

2. In a Command Prompt window on the Terminal, type the following:

   ```
   \> services refresh HTP0:
   ```

Setting up a User

The following example demonstrates how to set up a user named **Testuser** in a group called **Testgroup**.

To configure **User** and **Group Permissions** for the Web Server:

1. On the Falcon 44xx, launch Internet Explorer and type the following address in the address bar: http://localhost/NetAdmin. The Web-based network configuration utility appears.
2. Fill in the **Enter new password** and **Confirm new password** boxes, then click **Submit** on the bottom of the page.
3. On the menu bar of the displayed web page, click the **User Accounts** link. The **Enter Network Password** dialog box appears.
4. Type **Admin** in the **User Name** box, and type the password that you specified above in the **Password** box. Leave the **Domain** box empty.
5. Click **OK**. The **User Manager** Setup page appears.

6. In the **Logon Name** dialog, type **Testuser** in the **Create a new user** box, then click **Create**.The **User Manager Setup** page appears.
7. On the **User Configuration** page, type a password for **Testuser**, confirm the password, and then click **Create Account**. The new user will appear below the **Logon Name** box on the **User Manager Setup** page.
8. In the **User Group Setup** box, type **Testgroup** in the **Create a new group** box. Click **Create**.
9. Click **Return to user configuration page** to return to the **User Manager Setup** page. The new group will appear below the **Group Name** box on the **User Manager Setup** page.
10. Click **Modify** beside the **Group Name** box containing **Testgroup**. The **Group Configuration** page appears.
11. Select the check box in the **Member of group?** column for **Testuser**, and then click **Submit Changes**.

You have now added **Testuser** to the **Testgroup** group.

You can also create users programmatically by calling the NTLMSetUserInfo function. Windows CE also exposes the NTLMDeleteUser function, which is used to delete a user from the local database, and the NTLMEnumUser function, which is used to enumerate users in the local database.

Testing the Web Server

After you have created your user accounts and groups for the Web Server, you can test the Web Server by launching the Web Server configuration page from a host PC. This will demonstrate that your user has been granted administrative rights for the Web Server and therefore can access any virtual directory on the Web Server.

To launch the Web Server configuration page from your host PC:

1. On the Falcon 44xx, verify that the **Connected Network** icon appears on the taskbar. This icon indicates you are connected to the network.
2. Double-click the **Network** icon, and then select the **IP Information** tab to obtain the Falcon's IP address.
3. On the PC, launch Internet Explorer and type the following information in the address bar: http://<IP address from Falcon 44XX>/Webadmin.

4. The **Web Server Login** dialog appears. Type **Admin** in the **User Name** box and enter the password you specified. Click **OK**, and the **Web Server Configuration** page will appear.
5. Scroll to the bottom of the page, and click **Modify** to the right of the **Default Website** box. The **Default Website** page appears.
6. Click the link to **Configure the Virtual Directories**. The **Virtual Directory Configuration** page appears.
7. Verify that the following virtual directories are listed on the page:

   /WebAdmin/

   /NetAdmin/
8. Click **Return to the Default Website** configuration page. The **Default Website page** appears.
9. Click **Configure the Administrative Users for this Website**. The **Administrative Users** page appears.
10. Select **Enabled** for **Testuser**, and then click **Update**. A message telling you that your modifications have been saved and asking you to restart the Web Server appears at the top of the page.
11. To restart the Web Server, select **Restart Web Server** from the menu bar.

Launching the Network Administration Page

To launch the network administration page from your host PC:

1. Open Internet Explorer and type the following information in the address bar: http://<IP address from Falcon 44XX>/NetAdmin. A dialog box asking for the user name and password appears.
2. Type **Testuser** in the **User name** box and the password you created for this user in the **Password** box, and then click **OK**. The **Network Administration** page appears.

Web Server Registry Settings

To gain access to a virtual path, a user must be authenticated using NTLM authentication or Basic authentication. Specify the authentication level by setting the **"a"** value for each virtual path.

For more information on the registry settings and what each key represents, see the Windows® CE SDK help documentation included with embedded Visual C++ 4.0 SP2. The help file contains a wealth of information on this topic.

Adding these values will create virtual root directories for the Basic and NTLM-based authentication methods.

```
[HKEY_LOCAL_MACHINE\COMM\HTTPD\VROOTS\/WebAdmin]
@="\\windows\\httpdadm.dll"
"a"=dword:0
[HKEY_LOCAL_MACHINE\COMM\HTTPD\VROOTS\/BasicOnly]
@="\\"
"a"=dword:1
"Basic"=dword:1
"NTLM"=dword:0
[HKEY_LOCAL_MACHINE\COMM\HTTPD\VROOTS\/NTLMOnly]
@="\\"
"a"=dword:1
"Basic"=dword:0
"NTLM"=dword:1
[HKEY_LOCAL_MACHINE\COMM\HTTPD\VROOTS\/BothAuth]
@="\\"
"a"=dword:1
"Basic"=dword:1
"NTLM"=dword:1
```

CAUTION

Setting the "a" value to zero (0) enables anonymous users to have access to all files in the virtual directory. This potentially opens the device up to hackers. Setting this value to zero (0) is permissible for internal development and testing purposes. However, you should never ship a Web Server device with the "a" value set to zero (0) for any configuration page.

To set the password for the entire Web Server device for Basic authentication, you can create a configuration application that runs on the device and calls the SetPassword function. Setting the password programmatically through SetPassword is the equivalent of the device password setting that you add in Control Panel.

Creating and Using an ISAPI Service

Developers can create an ISAPI service written in eVC++ to access the APIs available on the Terminal. The two sample .dlls below demonstrate setting and getting a few of the configurable items available in the Falcon 44xx SDK.

Setting Configuration Items

The following example shows how to set the Code 39 minimum label length to 10 characters:

1. Create a virtual directory under the root called **SetSym** and set the Default registry entry to **SetSym.dll** while making sure the full path is included.

   ```
   [HKEY_LOCAL_MACHINE\COMM\HTTPD\VROOTS\/SetSym]
   @="\\windows\\SetSym.dll"
   ```

2. Restart the Web Server as described on page C-2.
3. Enter the following information into Internet Explorer on the Terminal or host PC:

   ```
   http://<ip address of Terminal>/SetSym?CD39MIN&10
   ```

Getting Configuration Items

The following example demonstrates how to get all the settings for Code 39:

1. Create a virtual directory under the root called GetSym and set the Default registry entry to GetSym.dll while making sure the full path is included.

   ```
   [HKEY_LOCAL_MACHINE\COMM\HTTPD\VROOTS\/GetSym]
   @="\\windows\\GetSym.dll"
   ```

2. Restart the Web Server as described in the first section. (C-2)
3. Enter the following information into the Internet Explorer on the Terminal or desktop computer:

   ```
   http://<ip address of Terminal>/GetSym?C39
   ```

These two samples are only the beginning of what can be accomplished with the Web Server. Please note that ISAPI is currently the only method of server-side method invocation. Please consult the Help file associated with the SDK and eVC++ for more information on ISAPI and Web Server features.

Appendix D
SNMP Interface

Overview

SNMP Concepts

Simple Network Management Protocol (SNMP) is a standardized protocol for network management services using a client/server model. The network management program (client) issues queries and commands to the remote device (agent/server). The protocol itself defines a number of variable types and structures, and the rules for using them for data transfer. Using these variable types and rules, there are a number of standard variables that are supported by all SNMP agents. These standards include network addressing (IP address, subnet mask, etc.), and network statistics (total packets, bad packets, etc.).

FMU uses Simple Network Management Protocol (SNMP) to perform many of its functions. When the Terminal Configuration or Terminal Report function is selected, SNMP is used to query the Terminal for its current Configuration settings, as well as current status information such as battery status and memory usage. In the same function, SNMP is used to update Terminal Configuration settings when directed to. SNMP is also used by the FMU Servers to perform the automated Group Configuration update. The Server issues SNMP queries to discover the current Terminal Configuration, then uses SNMP commands to update any Configuration settings that need it.

MIB Files

A Management Information Base (MIB) is a file that defines a set of SNMP variables, their types and usage. There are a number of standard MIBs available, depending on the information being managed.

PSC MIBs

Beyond the standard values, SNMP allows manufacturers to define their own private MIBs. For example, PSC has been assigned an MIB by the Internet Assigned Numbers Authority that allows PSC to define SNMP values relating specifically to devices that we manufacture. Within the PSC MIB, several categories of values have been defined including scanner Configurations, Terminal power Configurations and Terminal network parameters.

The format of an MIB follows rules laid out in the appropriate standards, allowing the manufacturers of network management tools such as HP OpenView and CastleRock SNMPc to make use of the MIBs developed by manufacturers. So by following the procedures used by the management tool, the MIB can be processed by the tool allowing the proper display of SNMP values retrieved from the agent.

For example, if the PSC MIB is loaded into OpenView, the administrator can then view all of the values defined by PSC using the names assigned by PSC, as well as a brief explanation of what each value represents. This will also allow the administrator to update most values, and provides range checking information for the tool to take advantage of. The current PSC MIB can be found on the PSC website at www.psc.com in the Downloads area.

Additional Resources

Additional information on SNMP can be found at the following websites:

www.snmplink.org

www.snmpworld.com

www.simpleweb.com

www.microsoft.com

Appendix E
Cable & Connector Configurations

Introduction

The following pages contain information about standard interface cables for use in interconnecting the Dock to power and/or peripheral devices.

General Specifications

Wire Requirements

- Cable length should not exceed 15 feet.
- Wire gauge = Standard for RJ-45 connectors (28-26 AWG).

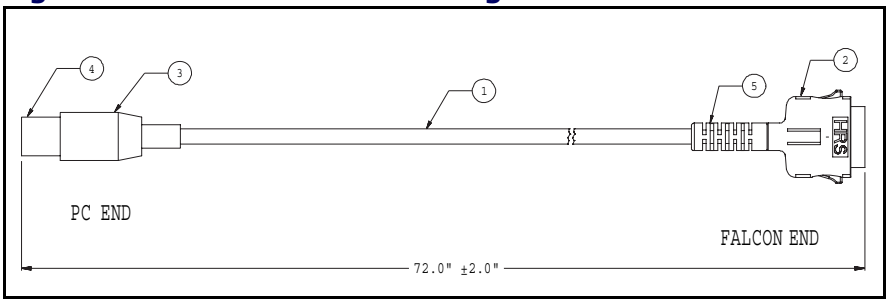
Supply Voltage

Current power supply voltage = 12V, 2.5 amp.

USB Cable

Figure E-1 illustrates the connector configuration of the USB cable for the Falcon.

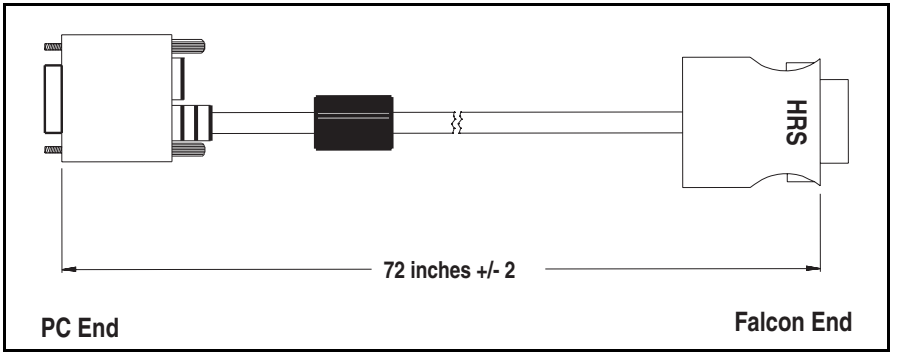
Figure E-1. USB Connector Configurations



Serial Cable

Figure E-2 illustrates the connector configuration of the Serial cable for the Falcon.

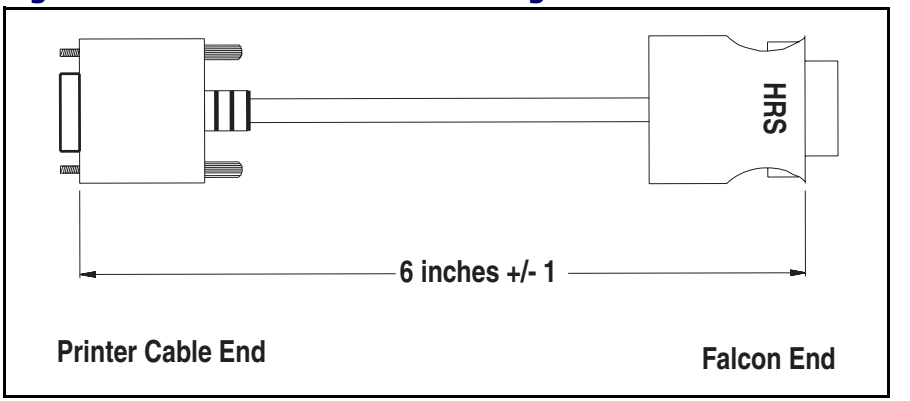
Figure E-2. Serial Connector Configurations



Printer Cable

Figure E-3 illustrates the connector configuration of the Printer cable for the Falcon.

Figure E-3. Printer Connector Configurations



Appendix F
Programming Parameters

Overview

This section contains information about programmable settings for the Falcon 4400 Lite. Use the Falcon Management Utility (FMU), the Decoding Control Panel applet, the Imaging or OCR Control Panel applets, or the bar codes provided in Appendix G to program the Falcon.

Table F-2 starting on page F-3 provides the following information:

- **Code Parameter** is the "human" name for the programming option.
- **I.D. #** is the "decoder" name for the programming option. For example, to set a Code 39 minimum label length, use I.D. **0120**. Programming I.D. numbers given in this appendix can be used with all programming methods.
- **On/Off** is a toggle. **1** turns the parameter on, and **0** turns it off.
- **Acceptable Input** gives the settings or range of settings for each code parameter.
- **Default Options** indicate how the parameters are set when one of the predefined defaults is selected.
  - **Minimum (FF39)** turns every on/off parameter off and sets all minimum and Maximum Label Lengths to the lowest values. To set the Falcon to minimum default settings, scan the **Minimum** bar code on page G-2.
  - **Maximum (FF3A)** turns every on/off parameter on, sets all Minimum Label Lengths to the lowest values, and sets all Maximum Label Lengths to the highest values. Use this default for troubleshooting; it provides the best settings for reading an unknown bar code symbology and can identify the symbology of scanned bar codes. To set the Falcon to minimum default settings, scan the **Maximum** bar code on page G-2.

- **Factory (FF3B)** is the factory setting installed on the Falcon. This default set will work for most applications. To reset the Falcon to the original defaults, scan the **Factory** bar code on page G-2.

Programming Codes Without Parameters

The following table describes the functions of special bar codes that take no parameters:

Table F-1. Programming Codes Without Parameters

Code Parameter	I.D. #	Function
Defaults Minimum	**FF39**	Turns every On/Off parameter off and sets all minimum and Maximum Label Lengths to the lowest values.
Defaults Maximum	**FF3A**	Turns every On/Off parameter on and sets all minimum and Maximum Label Lengths to the highest values. This default set is normally used only for troubleshooting. It gives the best chance of reading an unknown bar code symbology and also identifies the symbology of each bar code scanned.
Defaults Factory	**FF3B**	This is the default parameter settings that was installed at the factory. This default set will work for most applications.
Defaults Registry	**FF3C**	This restores all parameter settings to the values that exist in the registry. This is useful for restoring parameters to a known working set of values which have been saved using code parameter **FF3F**.
Exit and Restore	**FF3D**	Stops a label programming sequence and restores all parameter settings to the values that exist in the registry.
Exit and Save	**FF3E**	Stops a label programming sequence. The last valid parameter settings are left intact.
Exit and Commit	**FF3F**	Stops a label programming sequence and writes all parameter settings into the registry. This can be used to save a customized set of parameter settings for restoring later via parameter **FF3C**.

Bar Code Parameters

The following table lists the standard customer programmable settings for the Falcon.

Table F-2. Programmable Standard Bar Code Settings

Code Parameter/ Description		I.D. #	Acceptable Input	Default Options		
				Min	Max	Factory
Codabar			Enter 1 for On and 0 for Off.			
Enable	Enables/disables the Codabar symbology.	0300	On / Off	Off	On	On
Enable Aggressive Decoding	Enables more aggressive decoding algorithms to be used in order to scan hard to read labels.	0301	On / Off	Off	On	Off
Enable Checksum	Requires the use of checksum characters to verify a bar code.	0302	On / Off	Off	Off	Off
Send Checksum	Instructs the terminal to include the checksum in the label transmission	0303	On / Off	Off	Off	Off
Send Start/Stop	Instructs the decoder to transmit the decoded start and stop characters of Codabar labels. The start and stop characters will both be translated as A, B, C, or D.	0305	On / Off	Off	On	Off
Convert to CLSI	Restricts the Codabar decoder to only read labels that conforms to CLSI specifications. Label length must be 14, and the data is split into fields of 1, 4, 5, and 4 characters separated by spaces.	0306	On / Off	Off	Off	Off
Allow Wide Intercharacter Gaps	Allows wide gaps to appear between characters in a label.	0307	On / Off	Off	On	On

Code Parameter/ Description		I.D. #	Acceptable Input	Default Options		
				Min	Max	Factory
Minimum Label Length	Set the minimum label length to be less than or equal to maximum label length.	0320	01 - 50	01	01	04
Maximum Label Length	This feature specifies the maximum allowable length of a Codabar label. The length includes check and data characters. Maximum Label Length should be greater than or equal to Minimum Label Length.	0321	01 - 50	01	50	20
Read Verification	Sets the number of times a label must be read before it is transmitted.	0322	01 - 04	01	02	01
User ID	Specifies the symbology identifier (if any) that is sent when parameter Send Code ID (Index 0025) is set to 3. ASCII code zero (null) is used to indicate that an identifier is not to be sent for the symbology.	0323	Any single ASCII character (00 = Off)	'I'	'I'	'I'
Code 39			**Enter 1 for On and 0 for Off.**			
Enable	Enables/disables the Code 39 symbology.	0100	On / Off	Off	On	On
Enable Aggressive Decoding	Enables more aggressive decoding algorithms to be used in order to scan hard to read labels.	0101	On / Off	Off	On	Off
Enable Checksum	Requires the use of checksum characters to verify a bar code.	0102	On / Off	Off	Off	Off
Send Checksum	Instructs the terminal to include the checksum in the label transmission.	0103	On / Off	Off	Off	Off
Full ASCII Mode	Supports the entire ASCII character set by replacing various encoded ASCII characters with their corresponding ASCII equivalents.	0105	On / Off	Off	On	On

Code Parameter/ Description		I.D. #	Acceptable Input	Default Options		
				Min	Max	Factory
Minimum Label Length	Set the minimum label length to be less than or equal to maximum label length.	0120	01 - 50	01	01	01
Maximum Label Length	This feature specifies the maximum allowable length of a Code 39 label. The length includes check and data characters. Maximum Label Length should be greater than or equal to Minimum Label Length.	0121	01 - 50	01	50	20
Read Verification	Sets the number of times a label must be read before it is transmitted.	0122	01 - 04	01	02	01
User ID	Specifies the symbology identifier (if any) that is sent when parameter Send Code ID (Index 0025) is set to 3. ASCII code zero (null) is used to indicate that an identifier is not to be sent for the symbology.	0123	Any single ASCII character (00 = Off)	'C'	'C'	'C'
Code 93			**Enter 1 for On and 0 for Off.**			
Enable	Enables/disables the Code 93 symbology.	0400	On / Off	Off	On	Off
Enable Aggressive Decoding	Enables more aggressive decoding algorithms to be used in order to scan hard to read labels.	0401	On / Off	Off	On	Off
Minimum Label Length	Set the minimum label length to be less than or equal to maximum label length.	0420	01 - 50	01	01	02
Maximum Label Length	This feature specifies the maximum allowable length of a Code 93 label. The length includes check and data characters. Maximum Label Length should be greater than or equal to Minimum Label Length.	0421	01 - 50	01	50	20

Code Parameter/ Description		I.D. #	Acceptable Input	Default Options		
				Min	Max	Factory
Read Verification	Sets the number of times a label must be read before it is transmitted.	0422	01 - 04	01	02	01
User ID	Specifies the symbology identifier (if any) that is sent when parameter Send Code ID (Index 0025) is set to 3. ASCII code zero (null) is used to indicate that an identifier is not to be sent for the symbology.	0423	Any single ASCII character (00 = Off)	'L'	'L'	'L'
Code 128			**Enter 1 for On and 0 for Off.**			
Enable	Enables/disables the Code 128 symbology.	0408	On / Off	Off	On	On
Enable Aggressive Decoding	Enables more aggressive decoding algorithms to be used in order to scan hard to read labels.	0409	On / Off	Off	On	Off
Enable UCC/EAN-128	Instructs the decoder to recognize UCC-128 versions of Code 128 labels and process them differently by changing the Code ID, and replacing each occurrence of the FNC1 character with GS (ASCII 29) characters.	040C	On / Off	Off	On	Off
ISBT Concatenation	Instructs the decoder to concatenate Code 128 labels conforming to the ISBT 128 standard.	040E	On / Off	Off	Off	
Minimum Label Length	Set the minimum label length to be less than or equal to maximum label length.	0424	01 - 50	01	01	02
Maximum Label Length	This feature specifies the maximum allowable length of a Code 128 label. The length includes check and data characters. Maximum Label Length should be greater than or equal to Minimum Label Length.	0425	01 - 50	01	50	20

Code Parameter/ Description		I.D. #	Acceptable Input	Default Options		
				Min	Max	Factory
Read Verification	Sets the number of times a label must be read before it is transmitted.	0426	01 - 04	01	02	01
User ID	Specifies the symbology identifier (if any) sent when parameter Send Code ID (Index 0025) is set to 3. ASCII code zero (null) is used to indicate that an identifier is not to be sent for the symbology.	0427	Any single ASCII character (00 = Off)	'K'	'K'	'K'
European Article Numbering-13 (EAN-13)			**Enter 1 for On and 0 for Off.**			
Enable	Enables/disables the EAN-13 symbology.	0510	On / Off	Off	On	On
Enable Aggressive Decoding	Enables more aggressive decoding algorithms to be used in order to scan hard to read labels.	0511	On / Off	Off	On	Off
Send Check Digit	Includes a check digit in the label which is transmitted.	0512	On / Off	Off	On	Off
Send System Digit	This instructs the decoder to include the system digit in the label transmission. For UPC-E, the system digit is zero.	0513	On / Off	Off	On	On
Convert EAN-13 to ISBN	This instructs the decoder to identify ISBN labels and append the check digit (per ISBN guidelines) to the end of the label.	0514	On / Off	Off	Off	Off
Convert EAN-13 to ISSN	This instructs the decoder to identify ISSN labels and append the check digit (per ISSN guidelines) to the end of the label.	0515	On / Off	Off	Off	Off

Code Parameter/ Description		I.D. #	Acceptable Input	Default Options		
				Min	Max	Factory
Enable EAN 4-Digit Price/ Weight Check Digit	Requires the use of a 4-digit price/ weight check digit to verify a bar code.	0516	On / Off	Off	Off	Off
Enable EAN 5-Digit Price/ Weight Check Digit	Requires the use of a 4-digit price/ weight check digit to verify a bar code.	0517	On / Off	Off	Off	Off
Read Verification	Sets the number of times a label must be read before it is transmitted.	0524	01 - 04	01	02	01
User ID	Specifies the symbology identifier (if any) that is sent by the decoder when parameter Send Code ID (Index 0025) is set to 3. ASCII code zero (null) is used to indicate that an identifier is not to be sent for the symbology.	0525	Any single ASCII character (00 = Off)	'M'	'M'	'M'
European Article Numbering-8 (EAN-8)			**Enter 1 for On and 0 for Off.**			
Enable	Enables/disables the EAN-8 symbology.	0518	On / Off	Off	On	On
Enable Aggressive Decoding	Enables more aggressive decoding algorithms to be used in order to scan hard to read labels.	0519	On / Off	Off	On	Off
Send Check Digit	Instructs the terminal to include the check digit in the label transmission.	051A	On / Off	Off	On	Off
Convert EAN-8 to EAN-13	Instructs the decoder to expand EAN-8 labels to their EAN-13 equivalents. Any EAN-13 parameters will then apply to the result.	051B	On / Off	Off	On	Off

Code Parameter/ Description		I.D. #	Acceptable Input	Default Options		
				Min	Max	Factory
Read Verification	Sets the number of times a label must be read before it is transmitted.	0526	01 - 04	01	02	01
User ID	Specifies the symbology identifier (if any) that is sent by the decoder when parameter Send Code ID (Index 0025) is set to 3. ASCII code zero (null) is used to indicate that an identifier is not to be sent for the symbology.	0527	Any single ASCII character (00 = Off)	'G'	'G'	'G'
Interleaved 2 of 5			**Enter 1 for On and 0 for Off.**			
Enable	Enables/disables the Interleaved 2 of 5 symbology.	0210	On / Off	Off	On	On
Enable Aggressive Decoding	Enables more aggressive decoding algorithms to be used in order to scan hard to read labels.	0211	On / Off	Off	On	Off
Enable Checksum	Requires the use of checksum characters to verify a bar code.	0212	On / Off	Off	Off	Off
Send Checksum	Instructs the terminal to include the checksum in the label transmission.	0213	On / Off	Off	Off	Off
Enable Case Code	Restricts Interleaved 2 of 5 label lengths to only 6 and 14 data characters. Enabling this parameter overrides the minimum and maximum length values.	0214	On / Off	Off	Off	Off
Minimum Label Length	Set the minimum label length to be less than or equal to maximum label length.	0228	02 - 50	02	02	06

Code Parameter/ Description		I.D. #	Acceptable Input	Default Options		
				Min	Max	Factory
Maximum Label Length	This feature specifies the maximum allowable length of a Interleaved 2 of 5 label. The length includes check and data characters. Maximum Label Length should be greater than or equal to Minimum Label Length.	0229	02 - 50	02	50	10
Read Verification	Sets the number of times a label must be read before it is transmitted.	022A	01 - 04	01	02	01
User ID	Specifies the symbology identifier (if any) that is sent by the decoder when parameter Send Code ID (Index 0025) is set to 3. ASCII code zero (null) is used to indicate that an identifier is not to be sent for the symbology.	022B	Any single ASCII character (00 = Off)	'B'	'B'	'B'
Matrix 2 of 5			**Enter 1 for On and 0 for Off.**			
Enable	Enables/disables the Matrix 2 of 5 symbology.	0208	On / Off	Off	On	Off
Enable Aggressive Decoding	Enables more aggressive decoding algorithms to be used in order to scan hard to read labels.	0209	On / Off	Off	On	Off
Enable Checksum	Requires the use of checksum characters to verify a bar code.	020A	On / Off	Off	Off	Off
Send Checksum	Instructs the terminal to include the checksum in the label transmission.	020B	On / Off	Off	Off	Off
Minimum Label Length	Set the minimum label length to be less than or equal to maximum label length.	0224	01 - 50	01	01	06

Code Parameter/ Description		I.D. #	Acceptable Input	Default Options		
				Min	Max	Factory
Maximum Label Length	This feature specifies the maximum allowable length of a Matrix 2 of 5 label. The length includes check and data characters. Maximum Label Length should be greater than or equal to Minimum Label Length.	0225	01 - 50	01	50	10
Read Verification	Sets the number of times a label must be read before it is transmitted.	0226	01 - 04	01	02	01
User ID	Specifies the symbology identifier (if any) that is sent by the decoder when parameter Send Code ID (Index 0025) is set to 3. ASCII code zero (null) is used to indicate that an identifier is not to be sent for the symbology.	0227	Any single ASCII character (00 = Off)	'D'	'D'	'D'
MSI			**Enter 1 for On and 0 for Off.**			
Enable	Enables/disables the MSI symbology.	0608	On / Off	Off	On	Off
Enable Aggressive Decoding	Enables more aggressive decoding algorithms to be used in order to scan hard to read labels.	0609	On / Off	Off	On	Off
Require 2 Check Digits	An MSCI label must contain 2 check digits.	060A	On / Off	Off	Off	Off
Send Check Digits	This instructs the decoder to include any enabled check digit(s) in the label which is transmitted.	060B	On / Off	Off	On	Off
2nd Check Digit Mod 11	Instructs the decoder to interpret any second MSI check digit as modulo 11 instead of modulo 10.	060C	On / Off	Off	Off	Off
Minimum Label Length	Set the minimum label length to be less than or equal to maximum label length.	0624	01 - 15	01	01	04

Code Parameter/ Description		I.D. #	Acceptable Input	Default Options		
				Min	Max	Factory
Maximum Label Length	This feature specifies the maximum allowable length of an MSI label. The length includes check and data characters. Maximum Label Length should be greater than or equal to Minimum Label Length.	0625	01 - 15	01	15	10
Read Verification	Sets the number of times a label must be read before it is transmitted.	0626	01 - 04	01	02	01
User ID	Specifies the symbology identifier (if any) that is sent by the decoder when parameter Send Code ID (Index 0025) is set to 3. ASCII code zero (null) is used to indicate that an identifier is not to be sent for the symbology.	0627	Any single ASCII character (00 = Off)	'H'	'H'	'H'
Pharmacode 39 (Code 32)			**Enter 1 for On and 0 for Off.**			
Enable	Enables/disables the Pharmacode 39 (Code 32) symbology.	0110	On / Off	Off	On	Off
Send Checksum	Instructs the terminal to include the checksum in the label transmission.	0112	On / Off	Off	Off	Off
Send Start/Stop	Instructs terminals to prefix a Pharmacode 39 label with an “A” prior to transmission.	0113	On / Off	Off	On	Off
User ID	Specifies the symbology identifier (if any) that is sent when parameter Send Code ID (Index 0025) is set to 3. ASCII code zero (null) is used to indicate that an identifier is not to be sent for the symbology.	0127	Any single ASCII character (00 = Off)	'Y'	'Y'	'Y'

Code Parameter/ Description		I.D. #	Acceptable Input	Default Options		
				Min	Max	Factory
RSS-14			Enter 1 for On and 0 for Off.			
RSS-14 Enable	Enables/disables the RSS-14 symbology.	0800	On / Off	Off	On	On
RSS-14 to UCC-EAN 128	Instructs the decoder to transmit the label data as one or more UCC-128 labels. The transmission will use the UCC-128 AIM identifier.	0804	On / Off	Off	On	Off
	If RSS-14, RSS-Expanded, RSS-Limited, or RSS-Composite symbologies are enabled for UCC-EAN 128, then that setting is also enabled for all other RSS symbologies.					
RSS Limited			Enter 1 for On and 0 for Off.			
RSS Limited Enable	Enables/disables the RSS Limited symbology.	0808	On / Off	Off	On	On
RSS Limited to UCC-EAN 128	Instructs the decoder to transmit the label data as one or more UCC-128 labels. The transmission will use the UCC-128 AIM identifier.	080C	On / Off	Off	On	Off
	If RSS-14, RSS-Expanded, RSS-Limited, or RSS-Composite symbologies are enabled for UCC-EAN 128, then that setting is also enabled for all other RSS symbologies.					
RSS Expanded			Enter 1 for On and 0 for Off.			
RSS Expanded Enable	Enables/disables the RSS Expanded symbology.	0810	On / Off	Off	On	On

Code Parameter/ Description		I.D. #	Acceptable Input	Default Options		
				Min	Max	Factory
RSS Expanded to UCC-EAN 128	Instructs the decoder to transmit the label data as one or more UCC-128 labels. The transmission will use the UCC-128 AIM identifier.	0804	On / Off	Off	On	Off
RSS Expanded Minimum	Set the minimum bar code label length to be less than or equal to maximum label length.	0824	1 - 74	1	74	1
RSS Expanded Maximum	This feature specifies the maximum allowable length of a label. The length includes check and data characters, if applicable. Maximum Label Length should be greater than or equal to Minimum Label Length.	0825	1 - 74	1	74	74
RSS Expanded User Code ID	Specifies the symbology identifier (if any) that is sent when parameter Send Code ID (Index 0025) is set to 3. ASCII code zero (null) is used to indicate that an identifier is not to be sent for the symbology.	0827	Any single ASCII character (00 = Off)	'R'	'R'	'R'
Standard 2 of 5			**Enter 1 for On and 0 for Off.**			
Enable	Enables/disables the Standard 2 of 5 symbology.	0200	On / Off	Off	On	Off
Enable Aggressive Decoding	Enables more aggressive decoding algorithms to be used in order to scan hard to read labels.	0201	On / Off	Off	On	Off
Enable Checksum	Requires the use of checksum characters to verify a bar code	0202	On / Off	Off	Off	Off
Send Checksum	Instructs the terminal to include the checksum in the label transmission.	0203	On / Off	Off	Off	Off

Code Parameter/ Description		I.D. #	Acceptable Input	Default Options		
				Min	Max	Factory
Use 2-bar Start/Stop	Allows the terminal to recognize labels that are printed using only two bars for start/stop characters.	0204	On / Off	Off	Off	Off
Minimum Label Length	Set the minimum label length to be less than or equal to maximum label length.	0220	01 - 50	01	01	06
Maximum Label Length	This feature specifies the maximum allowable length of a Standard 2 of 5 label. The length includes check and data characters. Maximum Label Length should be greater than or equal to Minimum Label Length.	0221	01 - 50	01	50	10
Read Verification	Sets the number of times a label must be read before it is transmitted.	0222	01 - 04	01	02	01
User ID	Specifies the symbology identifier (if any) that is sent when parameter Send Code ID (Index 0025) is set to 3. ASCII code zero (null) is used to indicate that an identifier is not to be sent for the symbology.	0223	Any single ASCII character (00 = Off)	'F'	'F'	'F'
Trioptic			**Enter 1 for On and 0 for Off.**			
Enable	Enables/disables the Trioptic symbology.	0108	On / Off	Off	On	Off
Enable Aggressive Decoding	Enables more aggressive decoding algorithms to be used in order to scan hard to read labels.	0109	On / Off	Off	On	Off
Read Verification	Sets the number of times a label must be read before it is transmitted.	0124	01 - 04	01	02	01

Code Parameter/ Description		I.D. #	Acceptable Input	Default Options		
				Min	Max	Factory
User ID	Specifies the symbology identifier (if any) that is sent when parameter Send Code ID (Index 0025) is set to 3. ASCII code zero (null) is used to indicate that an identifier is not to be sent for the symbology	0125	Any single ASCII character (00 = Off)	'X'	'X'	'X'
Universal Product Code-A (UPC-A)			**Enter 1 for On and 0 for Off.**			
Enable	Enables/disables the UPC-A symbology.	0500	On / Off	Off	On	On
Enable Aggressive Decoding	Enables more aggressive decoding algorithms to be used in order to scan hard to read labels.	0501	On / Off	Off	On	Off
Send Check Digit	Includes check digit in the label which is transmitted.	0502	On / Off	Off	On	Off
Send System Digit	Includes the system digit in the label transmission. For UPC-A, the system digit is always zero.	0503	On / Off	Off	On	On
Convert UPC-A to EAN-13	Instructs the decoder to expand UPC-A labels to their EAN-13 equivalents. Any EAN-13 parameters will then apply to the result.	0504	On / Off	Off	On	Off
Read Verification	Sets the number of times a label must be read before it is transmitted.	0520	01 - 04	01	02	01
User ID	Specifies the symbology identifier (if any) sent when parameter Send Code ID (Index 0025) is set to 3. ASCII code zero (null) is used to indicate that an identifier is not to be sent for the symbology.	0521	Any single ASCII character (00 = Off)	'A'	'A'	'A'

Code Parameter/ Description		I.D. #	Acceptable Input	Default Options		
				Min	Max	Factory
Universal Product Code-E (UPC-E)			Enter 1 for On and 0 for Off.			
Enable System Digit 0	Enables/disables UPC-E labels with a system digit of zero.	0508	On / Off	Off	On	On
Enable Aggressive Decoding	Enables more aggressive decoding algorithms to be used in order to scan hard to read labels.	0509	On / Off	Off	On	Off
Send Check Digit	Includes the check digit in the label which is transmitted.	050A	On / Off	Off	On	Off
Send System Digit	This instructs the decoder to include the system digit in the label transmission. For UPC-E, the system digit is zero.	050B	On / Off	Off	On	Off
Convert UPC-E to UPC-A	Instructs the decoder to expand UPC-E labels to their UPC-A equivalents. Any UPC-A parameters will then apply to the result.	050C	On / Off	Off	On	Off
Read Verification	Sets the number of times a label must be read before it is transmitted.	0522	01 - 04	01	02	01
User ID	Specifies the symbology identifier (if any) that is sent by the decoder when parameter Send Code ID (Index 0025) is set to 3. ASCII code zero (null) is used to indicate that an identifier is not to be sent for the symbology.	0523	Any single ASCII character (00 = Off)	'E'	'E'	'E'
UPC/EAN Extensions			Enter 1 for On and 0 for Off.			
Enable 2-Digit Extensions	Requires a 2 digit extension (supplemental label) to be verified for a successful decode of a label.	051C	On / Off	Off	On	On

Code Parameter/ Description		I.D. #	Acceptable Input	Default Options		
				Min	Max	Factory
Enable 5-Digit Extensions	Requires a 5 digit extension (supplemental label) to be verified for a successful decode of a label.	051D	On / Off	Off	On	On
Require Extensions	Instructs the decoder to require any enabled UPC/EAN extensions (supplemental labels) to be with a label in order for a scan to be successful.	051F	On / Off	Off	Off	Off
Read Verification	Sets the number of times an extension (supplemental label) must be read before it is included in the transmission of the base UPC/EAN label.	0528	01 - 04	01	01	01

Table F-3. Other Controls

Code Parameter/ Description		I.D. #	Acceptable Input	Default Options		
				Min	Max	Factory
Other Controls			Enter 1 for On and 0 for Off.			
Enable Label Programming	Enables/disables the ability to perform label programming.	FF00	On / Off	On	On	On
Beeper Volume	Adjusts the beeper volume.	FF20	00 = Off 00 - 09 (01 = Lowest; 07 = Highest; 08 = Higher; 09 = Lower)	07	07	07
Long Range Trigger Mode	Selects the Long Range Trigger mode.	0000	On = Release Scan Off = Spot Timeout	Off	Off	Off
Spotting Beam Enable	Enables/disables the Spotting Beam	0001	On / Off	On	On	On
Spotting Beam Timeout	Sets the duration of the spotting beam before it automatically turns off.	0023	00 = 0.25 sec. 01 = 0.5 sec. 02 = 1.0 sec. 03 = 1.5 sec. 04 = 2.0 sec.	01	01	01
Release Scan Timeout	Sets the duration of the scan before it turns off.	0024	1-10	02	02	02
Number of Good-Read Beeps	Determines the number of beeps for a good read indicator.	0020	01 - 04	01	01	01
Good-Read Beep Tone	Adjusts the pitch of the beeper frequency.	0021	00 - 07 (00 = Lowest; 07 = Highest)	00	00	00
Good-Read Beep Duration	Determines the duration of a good read beep.	0022	00 = 0.07 sec. 01 = 0.13 sec. 02 = 0.18 sec. 03 = 0.36 sec.	00	00	00

Code Parameter/ Description		I.D. #	Acceptable Input	Default Options		
				Min	Max	Factory
Send Symbology Identifiers	Specifies the symbology identifier (if any) that is sent by the decoder when parameter Send Code ID (Index 0025) is set to 3. ASCII code zero (null) used to indicate an identifier not to be sent for the symbology.	0025	00 = Off 01 = PSC IDs* 02 = AIM IDs 03 = User IDs	00	01	00
Label Prefix	Indicates a label prefix.	0026	Any single ASCII character (00 = Off)	None	None	None
Label Suffix	Indicates a label suffix.	0027	Any single ASCII character (00 = Off)	CR	CR	CR

Table F-4. PSC Label IDs

PSC Label IDs		
UPC-A = A	Code 128 = K	Trioptic = X
UPC-E = E	I 2 of 5 = B	Pharmacode 39 = Y
EAN-8 = G	S 2 of 5 = F	RSS-14 = P
EAN 13 = M	M 2 of 5 = D	RSS Limited = Q
Code 39 = C	Code 93 = L	RSS Expanded = R
Codabar = I	MSI = H	

Appendix G
Programming Bar Codes

Overview

This appendix provides bar codes for common setup parameters for programming the Falcon 4400 Lite. Factory default settings are OUTLINED.

To make settings that are not provided in the chapter, you can design custom bar codes or use the Falcon Management Utility (FMU) to program the Falcon. Refer to Configuring the Falcon, on page 2-1.

1D Symbologies

Symbologies and bar code setup parameters included in this appendix are:

- "Predefined Defaults" on page G-2.
- "Codabar" starting on page G-3.
- "Code 39" starting on page G-6.
- "Code 93" starting on page G-8.
- "Code 128" on page G-10.
- "EAN-13" starting on page G-12.
- "EAN-8" on page G-14.
- "Interleaved 2 of 5" on page G-15
- "Matrix 2 of 5" on page G-17
- "MSI" starting on page G-19.
- "Pharmacode 39 (Code 32)" on page G-21.
- "RSS-14" on page G-21.
- "RSS Limited" on page G-22.
- "RSS Expanded" on page G-22.
- "Standard 2 of 5" starting on page G-24.
- "Trioptic" on page G-26.
- "UPC-A" starting on page G-26.

- "UPC-E" on page G-28.
- "UPC/EAN Extensions" on page G-29.
- "Other Controls" starting on page G-30.

Depending on which Falcon model you have, some programming parameters may not be available on your unit. Refer to Table F-2 on page F-3 for specific details on which parameters are applicable.

Predefined Defaults

Minimum

Registry

Maximum

Restore From Registry

Factory

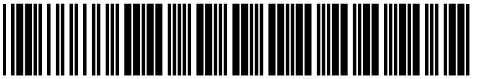
Save To Registry

Codabar

ENABLE

On

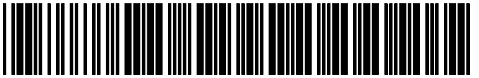
Off



ENABLE AGGRESSIVE DECODING

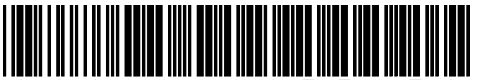
On

Off

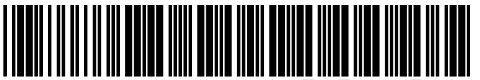


ENABLE CHECKSUM

On



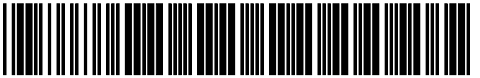
Off



SEND CHECKSUM

On

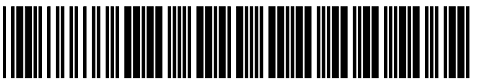
Off



SEND START/STOP

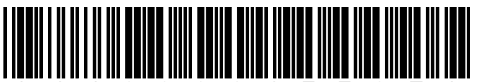
On

Off

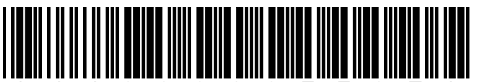


CONVERT TO CLSI

On



Off



ALLOW WIDE INTERCHARACTER GAPS

On

Off

MINIMUM LENGTH

1

30

4

40

10

50

20

MAXIMUM LENGTH

1

30

10

40

20

50

READ VERIFICATION

1

3

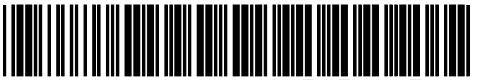
2

4

Code 39

ENABLE

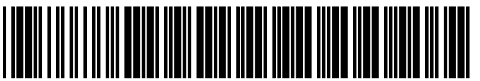
On



Off

ENABLE AGGRESSIVE DECODING

On



Off

ENABLE CHECKSUM

On

Off

SEND CHECKSUM

On

Off

FULL ASCII MODE

On

Off

MINIMUM LENGTH

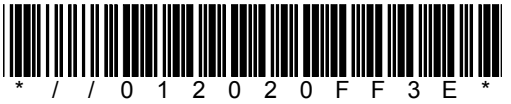
1

30

10

40

20



50

MAXIMUM LENGTH

1

30

10

40

20

50

READ VERIFICATION

1

3

2

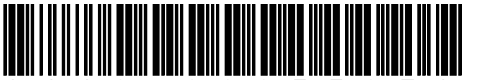
4

Code 93

ENABLE

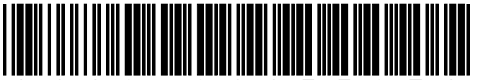
On

Off



ENABLE AGGRESSIVE DECODING

On



Off

MINIMUM LENGTH

2

30

10

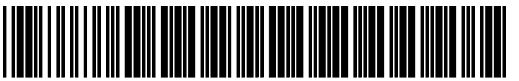
40

20

50

MAXIMUM LENGTH

2



30

10

40

20

//042120FF3E

50

//042150FF3E

READ VERIFICATION

1

//042201FF3E

3

//042203FF3E

2

//042202FF3E

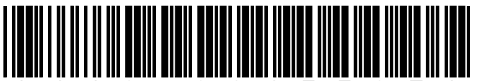
4

//042204FF3E

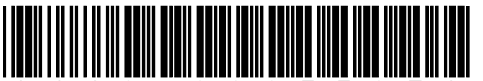
Code 128

ENABLE

On



Off



ENABLE AGGRESSIVE DECODING

On

Off

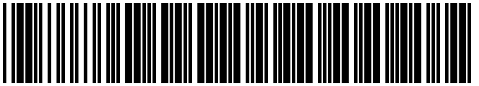
ENABLE UCC/EAN-128

On

Off

ISBT CONCATENATION

On



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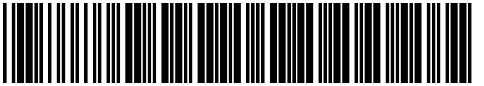
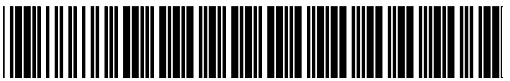


MINIMUM LENGTH

1

30

2



40

10

50

20

MAXIMUM LENGTH

1

30

10

40

20

50

READ VERIFICATION

1

3

2

4

EAN-13

ENABLE

On

Off

ENABLE AGGRESSIVE DECODING

On

Off

SEND CHECK DIGIT

On

Off

SEND SYSTEM DIGIT

On

Off

CONVERT EAN-13 TO ISBN

On

Off

CONVERT EAN-13 TO ISSN

On

Off

ENABLE EAN 4-DIGIT PRICE/WEIGHT CHECK DIGIT

On

Off

ENABLE EAN 5-DIGIT PRICE/WEIGHT CHECK DIGIT

On

Off

READ VERIFICATION

1

3

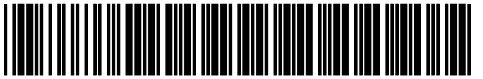
2

4

EAN-8

ENABLE

On



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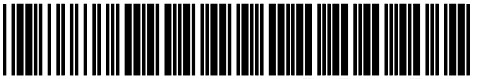
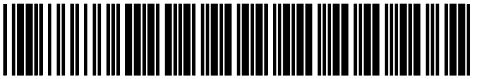


ENABLE AGGRESSIVE DECODING

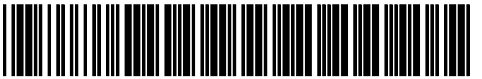
On



Off

SEND CHECK DIGIT

On

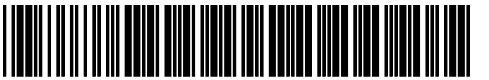


Off

CONVERT EAN-8 TO EAN-13

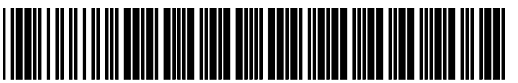
On

Off

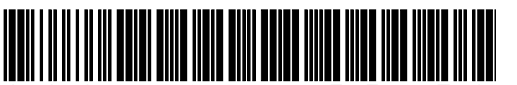


READ VERIFICATION

1

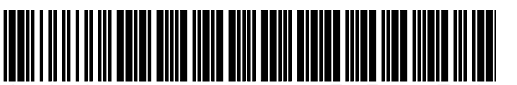


3



2

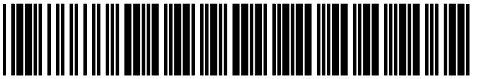
4



Interleaved 2 of 5

ENABLE

On

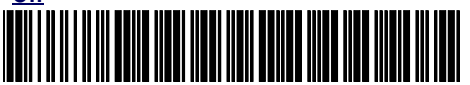


Off

ENABLE AGGRESSIVE DECODING

On

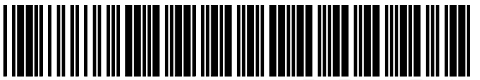
Off



ENABLE CHECKSUM

On

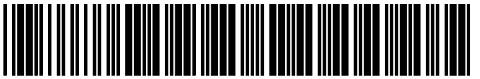
Off



SEND CHECKSUM

On

Off



ENABLE CASE CODE

On

Off

MINIMUM LENGTH

2

30

6

40

10

50

20

MAXIMUM LENGTH

2

30

10

40

20

50

READ VERIFICATION

1

3

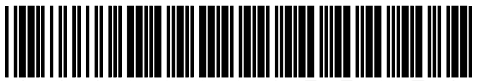
2

4

Matrix 2 of 5

ENABLE

On



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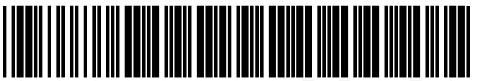
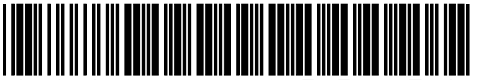


ENABLE AGGRESSIVE DECODING

On

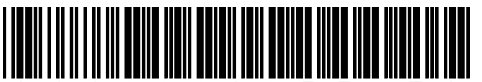


Off

ENABLE CHECKSUM

On

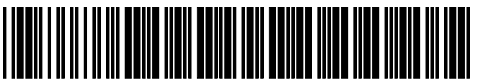
Off



SEND CHECKSUM

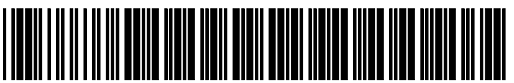
On

Off

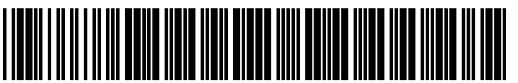


MINIMUM LENGTH

1



30



6

40

10

50

20

MAXIMUM LENGTH

1

30

10

40

20

50

READ VERIFICATION

1

3

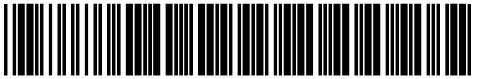
2

4

MSI

ENABLE

On



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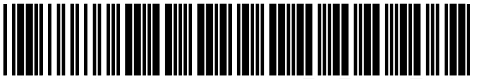
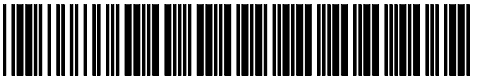


ENABLE AGGRESSIVE DECODING

On



Off

REQUIRE 2 CHECK DIGITS

On

Off

SEND CHECK DIGITS

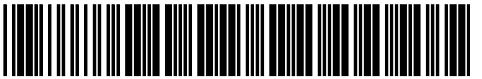
On

Off

2ND CHECK DIGIT MOD 11

On

Off



MINIMUM LENGTH

1

10

4

12

7

15

MAXIMUM LENGTH

1

10

4

12

7

15

READ VERIFICATION

1

3

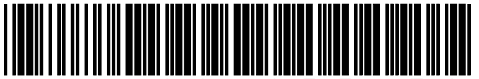
2

4

Pharmacode 39 (Code 32)

ENABLE

On

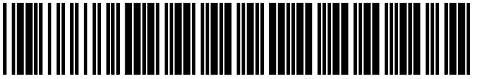


Off

SEND CHECKSUM

On

Off



SEND START/STOP

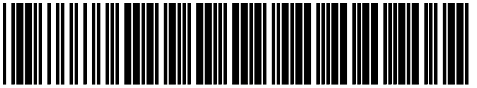
On

Off

RSS-14

ENABLE

On



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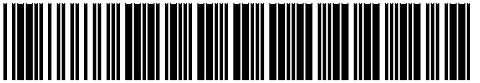
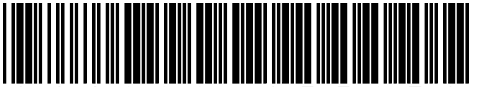


ENABLE RSS-14 to UCC-128

On

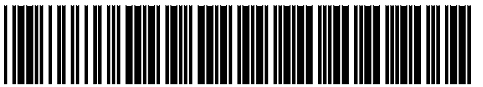


Off

RSS Limited

ENABLE

On



Off

ENABLE RSS Limited to UCC-128

On

Off

RSS Expanded

ENABLE

On

Off

ENABLE RSS Expanded to UCC-128

On

Off

MINIMUM LENGTH

1

45

15

60

30

74

MAXIMUM LENGTH

1

45

15

6

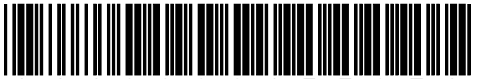
30

74

Standard 2 of 5

ENABLE

On



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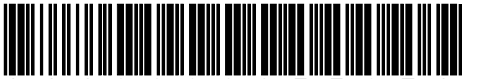
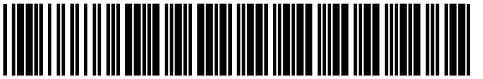


ENABLE AGGRESSIVE DECODING

On



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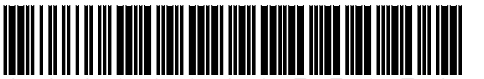
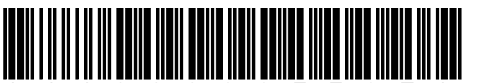


ENABLE CHECKSUM

On

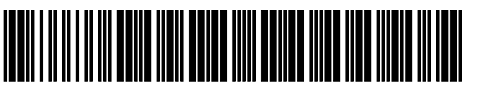
Off



SEND CHECKSUM

On

Off



USE 2-BAR START/STOP

On

Off

MINIMUM LENGTH

1

30

6

40

10

50

20

MAXIMUM LENGTH

1

30

10

40

20

50

READ VERIFICATION

1

3

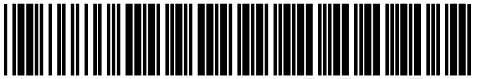
2

4

Trioptic

ENABLE

On



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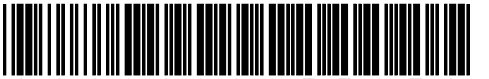
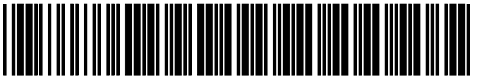


ENABLE AGGRESSIVE DECODING

On



Off

READ VERIFICATION

1

3

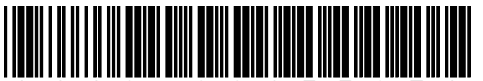
2

4

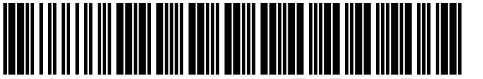
UPC-A

ENABLE

On



Off



ENABLE AGGRESSIVE DECODING

On

Off

SEND CHECK DIGIT

On

Off

SEND SYSTEM DIGIT

On

Off

CONVERT UPC-A TO EAN-13

On

Off

READ VERIFICATION

1

3

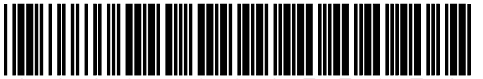
2

4

UPC-E

ENABLE SYSTEM DIGIT 0

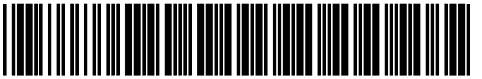
On



Off

ENABLE AGGRESSIVE DECODING

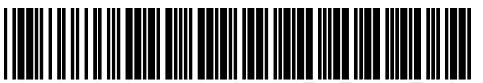
On



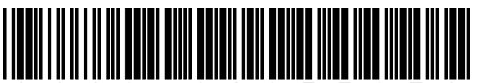
Off

SEND CHECK DIGIT

On



Off



SEND SYSTEM DIGIT

On

Off

CONVERT UPC-E TO UPC-A

On

Off

READ VERIFICATION

1

3

2

4

UPC/EAN Extensions

ENABLE 2-DIGIT EXTENSIONS

On

Off

ENABLE 5-DIGIT EXTENSIONS

On

Off

REQUIRE EXTENSIONS

On

Off

READ VERIFICATION

1

3

2

4

Other Controls

BEEPER VOLUME

Off

Lowest

Medium

Highest

Higher
(Increases the current value one increment higher)

Lower
(Decreases the current value one increment lower)

NUMBER OF GOOD-READ BEEPS

1

2

3

4

GOOD-READ BEEP TONE

Lowest

Medium

Highest

GOOD-READ BEEP DURATION (IN SECONDS)

0.07

0.13

0.18

0.36

Long Range Trigger Mode

Spot Timeout

Release Scan

Spotting Beam Enable

On

Off

//0001 0FF3E

Spotting Beam Timeout

0.25

//0023 00FF3E

0.5

//0220 01FF3E

1.0

//0023 02FF3E

1.5

//0023 03FF3E

2.0

//0023 04FF3E

Release Scan Timeout (IN SECONDS)

1

//0024 01FF3E

2

//0024 02FF3E

3

5

10

SEND SYMBOLOGY IDENTIFIERS

Off

PSC IDs

AIM IDs

User IDs

LABEL PREFIX

(CR)

(TAB)

None

LABEL SUFFIX

(CR)

(TAB)

None

NOTES

Appendix H
Maintenance

Maintaining the Falcon

With normal use, the Falcon, Dock, Four-Slot Dock and battery charger require no maintenance. For trouble-free service, observe the following tips when using the Falcon:

- To prolong its life and avoid problems, keep the Falcon clean. Use a clean, soft cloth dampened with a mild, dilute cleanser.
- If you need to clean the display, clean it with a lens cloth or other soft cloth dampened with a mild, dilute cleaning solution.

CAUTION

Never use a pen, pencil, or other sharp object on the display/touch screen. Use only the supplied stylus or plastic-tipped pens intended for use with a touch-sensitive screen.

Do not immerse the Falcon, docks, or battery chargers in liquid.

Do not use abrasive paper/cloth or abrasive/corrosive cleaners to clean the unit.

WARNING

Do not use a sharp object to Reset; use a paper clip. A sharp object can puncture the keypad, disabling the reset function, rupturing the industrial seal, and voiding your warranty. Refer to the *Falcon 4400 Lite Quick Reference Guide* for reset instructions.

NOTES

Appendix I
Glossary

Many definitions for this Glossary were taken directly from the Microsoft Developer's Network website at http://msdn.microsoft.com/library/default.asp.

1D bar code	A traditional linear bar code. The code itself contains no information about the item to which it is assigned but represents a string of identifying numbers or letters.
2D bar code	Two-dimensional (2D) bar codes permit the encoding of information about an item in addition to an identifying code. Two axes, or directions, are used for recording and reading the codes and the bar size is reduced, increasing the space available for data.
4-way rocker key	Refer to navigation key.
active notification	The state of a user notification from the time the user is notified until the user handles the event.
active window	The window in which a user is currently working or directing input. An active window is typically on top of the Z order and is distinguished by the color of its title bar.
ActiveSync	Microsoft Windows Communication application that synchronizes a Windows CE device with a Microsoft Windows-based host PC. ActiveSync can use RS-232, IrDA, USB, and Wireless networks.
AP	Access Point used for RF applications.
ASCII	American Standard Code for Information Interchange; a code for information exchange between computers made by different companies; a string of 7 binary digits represents each character; used in most microcomputers. Any member of the standard code for representing characters by binary numbers. .
AutoCAB	The AutoCAB program allows the Falcon to automatically reinstall selected applications when the terminal is cold booted. When the Falcon is rebooted, the AutoCAB program runs automatically and determines if it is a warm or cold boot.
AutoCE	The AutoCE program allows the user to create a list of applications to run when the Falcon is rebooted. Each application may be designated to run only on a cold boot, or on both warm and cold boots. The applications run sequentially, allowing interdependencies to be handled.

Batch units	Batch Falcon units are synchronized and updated using Microsoft ActiveSync software and a dock for communication with the host PC.
calibration	You may need to calibrate the touch screen. One way to know that the touch screen needs to be calibrated is that you will notice that when you attempt to select one item with the stylus, another item is erroneously selected.
checksum	A number used to verify the contents of a data file. This number is generated by calculating the contents of the data. If the calculated checksum is different from the expected checksum, the data has errors in it.
CLSI	CLSI, Inc., developer of the "LIBS 100 scanning and decoding system". The "Convert to CLSI" parameter refers to formatting a Codabar bar code label in the manner defined by CLSI, Inc.
command band	A rebar control with a fixed band at the top that contains a toolbar with a **Close** (X) button, an **OK** button, and optionally a **Help** (?) button in the upper right corner.
command bar	A control window that can contain buttons, combo boxes, and menu bars. Windows CE–based applications can use a command bar rather than a separate menubar and toolbar to efficiently use available screen space.
Concatenate	To arrange (strings of characters) into a connected list.
control	A standardized part of the window that can be manipulated by the user to perform an action or display information. The most common controls are buttons that allow the user to select options and scroll bars that allow the user to move through a document or position text in a window.
context sensitive help	Tap "**?**" to open a help dialog about the specific windows application you are using. Context sensitive help can tell where you are in a program and can provide assistance with the specific problems you might be having.
control panel	Control Panels are several different applets that allow you to configure the Falcon to meet your specific requires. There are control panels for scanning, keyboard, display, etc. Access the control panels at **Start > Settings > Control Panel.**
device manager	A tool to track all loaded device drivers and their interfaces. It issues notification of the appearance, disappearance of device interfaces, loads and tracks drivers by reading and writing registry values, and unloads drivers when their devices are no longer needed.
device partnership	A registry key on a Windows CE device that a desktop computer uses to identify the device when it is connected. The key defines values for synchronization, file conversions, and backup and restore information, which enable multiple Windows CE devices to connect to the same desktop computer. A device partnership is created the first time you connect a Windows CE device to a host PC.

embedded	Broadly, software code or commands built into a device, as opposed to software that is added. In a narrower sense, code that is typically stored in ROM and dedicated to either controlling a device or providing a specific functionality.
FAST	Part of PSC's Falcon Management Utility (FMU) application for the Falcon that updates the operating system and applications automatically from a server using the wireless network system.
firmware	Operating System on the Falcon.
FlashFX	Persistent Flash Memory management system made by Datalight™. Data in the flash memory is retained when a battery pack is fully discharged. The backup battery must be charged to retain flash memory.
Falcon Desktop Utility (FDU)	Falcon® Desktop Utility (FDU) allows PSC Falcon® Windows® administrators to configure Falcon Windows®CE Falcons to control individual user access.
Falcon Management Utility (FMU)	A PSC Windows-based management application for managing the configuration settings and updating the operating system and applications automatically from a server using the wireless network system on the Falcon.
Firmware Update Utility (FUU)	A PSC Windows-based field upgradeable firmware mechanism. Use the Firmware Update Utility (FUU), described starting on page 3-7, to install or update the firmware using an ActiveSync connection.
gripper bar	A gripper bar is a tall, thin rectangle with a dark stripe running through it that appears on a rebar or a command band control. By touching and dragging a gripper bar with a stylus, a user can reposition a rebar or command bar. Gripper bars are especially useful for bringing off-screen rebar or command bar controls into view.
host PC system	PC using the Microsoft Windows operating system and Falcon Management Utility (FMU) and/or ActiveSync.
IrDA	A communications protocol using an Infrared device to communicate with the Host PC.
Infrared Data Association	The industry organization of computer, component, and telecommunications vendors who have established the standards for infrared communication between computers and peripheral devices such as printers. Windows CE supports the IrDA standard through the Winsock API. Windows CE–based applications that communicate over serial cables using the Winsock API communicate over IrDA-compliant infrared links with only minimal reprogramming.
input method (IM)	A component that allows the user to input text using a touch screen.
input panel	Refer to soft input panel (SIP).

ISBN	International Standard Book Number. A unique number assigned to each book to allow ease of ordering from any source: local bookstore, online book dealers, or directly from the publisher. The ISBN number is usually printed on the back cover of a book near the bar code, but can also appear within the book.
ISSN	International Standard Serial Number. An ISSN consists of eight digits comprising two groups of four digits each, separated by a hyphen. The eighth digit is a check digit used as a computer validity check; it consists of a number between 0 and 9 or an uppercase X (for the arabic numeral 10).
MIB (Management Information Base)	A Management Information Base (MIB) is a file that defines a set of SNMP (Simple Network Management Protocol) variables, their types and usage. There are a number of standard MIBs available, depending on the information being managed. The MIB is used by the management tools to allow them to better support the configuration values provided on the terminals, such as scanner controls and terminal type information.
mounted file system	A file system located on a removable medium, such as a PC Card storage device. The operating system loads, or mounts, the file system when the medium is inserted into the device. It unloads, or unmounts, the file system when the medium is removed or when the user issues a command to do so.
navigation key	A large navigation button (4-way rocker key) on the keypad with 4 arrows: pointing up, down, left, and right that allows the user to move the cursor or highlighted text entry during menu selection. Press and release one edge of the key to move the display screen one line or one character in the direction of the arrow.
Network ID	Here used to mean that you should configure the Windows user settings, such as the user name, password, and domain name. Microsoft's definition includes some wireless network IDs as equivalent to SSIDs.
non-persistent state	A non-persistent state affects only the next keypress. FN state is a non-persistent state.
object store	The persistent storage that Windows CE makes available to applications. For example, Windows CE reserves part of its available RAM for the operating system and uses the rest for the object store. This data can be stored in files, registry entries, or Windows CE databases.
portable data assistant (PDA)	A handheld Windows-based (Pocket-PC or Windows CE) computer that can be synchronized with a host PC to share files and data. Sometimes contains an infrared device to beam information to another unit.
portable data terminal (PDT)	An industrial strength handheld computer with a keypad, navigation keys, and a bar code scanner used in inventory, retail, and warehouse activities to collect data and upload it to a host PC.

persistent state	A state which is maintained after releasing a key. Alpha mode is a persistent mode. Also called a “sticky” state. A persistent state must be turned off by pressing the key again.
PRG	Product Reference Guide.
program memory	Memory that is used for stack and heap storage for both system and nonsystem applications. Nonsystem applications are taken from storage memory, uncompressed, and loaded into program memory for execution.
RF card	A small card shaped device installed in a Falcon that allows wireless connection and communication with a network.
QRG	Quick Reference Guide.
RAM (random access memory)	You can add applications and data files to RAM or into Flash memory via the FlashFX Disk. While Flash memory is persistent (as long as the backup battery is charged), RAM is not and will be cleared when you remove or replace the battery. As you can only suspend the device, the only way to turn it fully off is to remove the battery or to perform a cold reset.
ROM (read only memory)	The operating system (Windows CE) and applications are pre-installed on ROM and cannot be removed or modified. These applications are persistent.
rebar	A command bar with a gripper bar.
remote access server (RAS)	A feature that connects a device to a host computer. Windows CE can connect to a remote access server using direct serial, infrared, and dial-up connections. Windows CE supports the standard Microsoft Win32 RAS functions; however, it allows only one connection at a time. RAS functions can be implemented for direct serial connections or dial-up modem connections.
RTC	Real Time Clock on the PC.
shortcut menu	A menu that is displayed for a selected object. The menu contains commands that are contextually relevant to the selection.
SNMP (Simple Network Management Protocol)	SNMP is the standard protocol for managing devices on a network. Simple Network Management Protocol (SNMP) is a standardized protocol for network management services using a client/server model. The network management program (client) issues queries and commands to the remote device
soft input panel (SIP)	Click on the **Keyboard** icon in the system tray to open the **SIP**. Use this virtual QWERTY keyboard like you would a computer’s keypad to enter alpha numeric and symbols in the current application.
splash screen	An initial screen displayed by software, usually containing a logo, version information, author credits, or a copyright notice.
start	The start button opens the Start menu. The Start menu contains a list of the resident applications, applets, and utilities viable to the user.

status bar	An area that displays state information for the content in the window, typically placed at the bottom of a window.
status icons	A graphic representation of the status of a feature or function.
strap studs	The Falcon 4410 comes with a handstrap that connects to the strap studs.
stylus	The stylus is the equivalent of a mouse on the Falcon. Use the stylus on a touch-sensitive display. Only a plastic tipped stylus should be used on a touch-sensitive display. Use the stylus to navigate the touchscreen display, select characters in the soft input panel (SIP), select applications from the desktop or system tray, select tabs, fields and text within applications and dialog boxes.
suspend mode	The Falcon will go into a suspend or sleep mode when it is idle for a period of time. Suspend mode works and looks just like you have turned the unit off. Press **<Power>** to suspend (put to sleep) the Falcon. Press **<Power>** again for the Falcon to resume its previous state.
Symbology	A symbology is a protocol for arranging the bars and spaces that make up a particular kind of bar code. A bar code is made up of numbers, letters, and computer-recognized characters that can be represented in a combination of bars and spaces. There is not one standard bar code; there are currently over 400 bar code symbologies that serve different uses, industries, or geographic needs.
system tray	An area of the display screen located at the bottom, within the Task bar that displays status icons and symbols.
system tray keyboard Indicators	The System Tray Keyboard Indicators are located at the bottom of the display in the task bar and contain status icons and symbols indicating open features and active applets.
task bar	The Task bar at the bottom of the screen displays the start icon, an icon for the active program, an icon for the current character, the current time, and system icons for utilities loaded in memory, including the keyboard icon, which opens and closes the soft input panel (SIP).
touchscreen display	A graphical computer interface display screen that allows the user to enter and select items with a stylus.
Tracert	Trace Route. A utility/command to determine TCP/IP packet routing.
Uniform Resource Locator (URL)	The address of a resource on the Internet. URL syntax is in the form *protocol://host/localinfo*, where *protocol* specifies the means of returning the object, such as HTTP or FTP. *Host* specifies the remote location where the object resides and *localinfo* is a string, often a file name, passed to the protocol handler at the remote location. *Also called* a Uniform Resource Identifier.
USB	Universal Serial Bus is a protocol for connecting PCs with peripheral devices, including PDTs, PDAs, Falcon mobile computers, cameras, printers, mice, scanners, etc.

Web Server	The web server can perform several different actions, including generating a web page containing statistics relating to performance of the mobile computer and creating an interface for interaction with the terminal to configure system behavior.
Windows CE	As per Microsoft, Windows CE combines an advanced real-time embedded operating system with the most powerful tools for rapidly creating the next generation of smart, connected, and small-footprint devices.
XPING	XPing is a protocol that sends a message to another computer and waits for acknowledgment, often used to check if another computer on a network is reachable.

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